90

Randy

Using Numbers

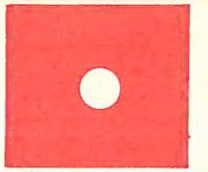
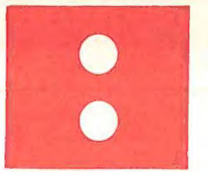
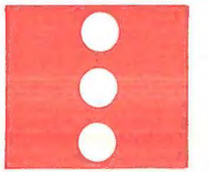
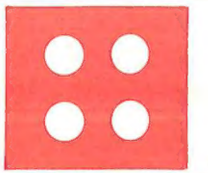
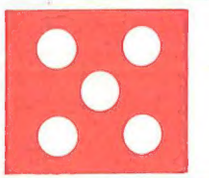
Revised in 1961

(Originally by Elda Merton & Leo Brueckner)

meaning, quantity, and social uses of 2. ss the ways of showing 2 pictured here. They onstrate ways to show 2 in their classroom. This class lesson suggests ways to show the numbers on the next page.

number

A

	1		one
	2		two
	3		three
	4		four
	5		five

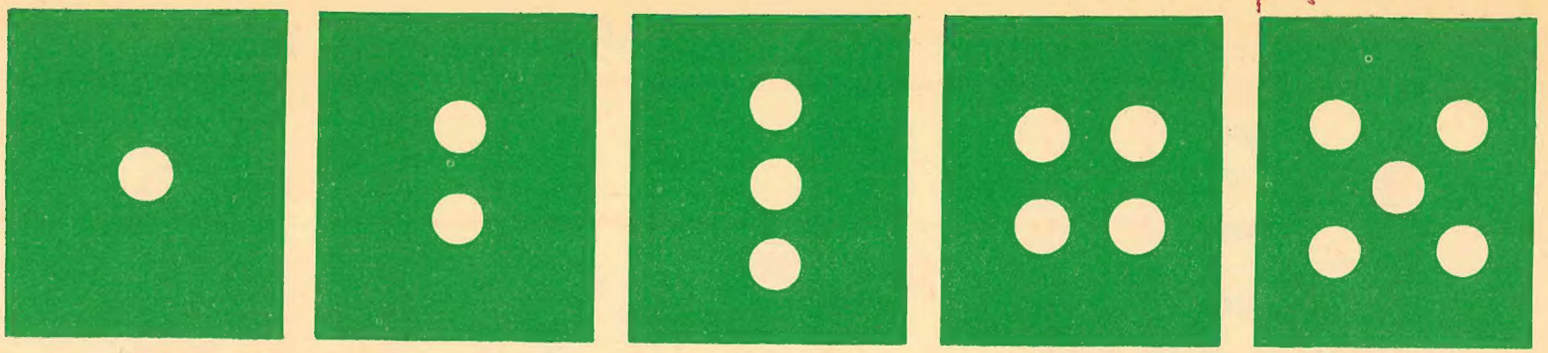
two 2 one 1 four 4 three 3 five 5

 3  5  1  4  2

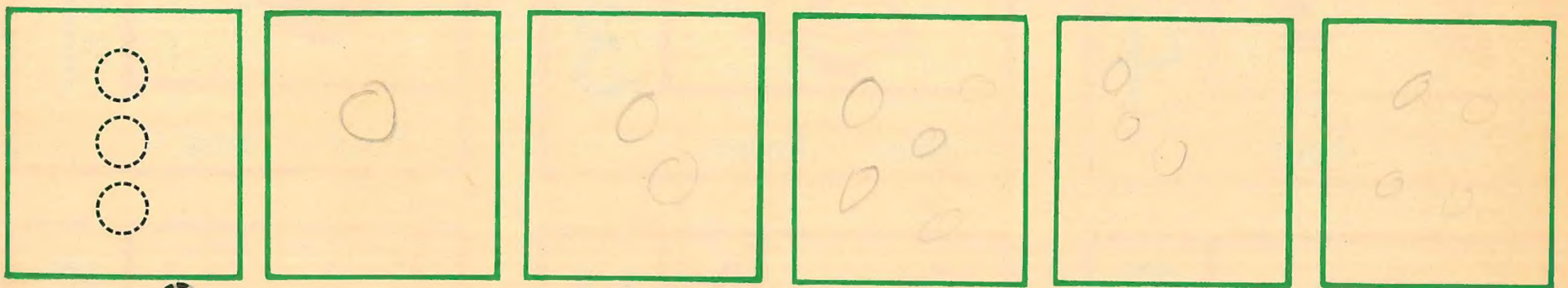
Learning various ways to express each of the numbers from 1 to 5. Children use concrete objects, the pictured objects, the number symbol, the semi-concrete grouping, and the name. They also show the numbers as on page 1.

A

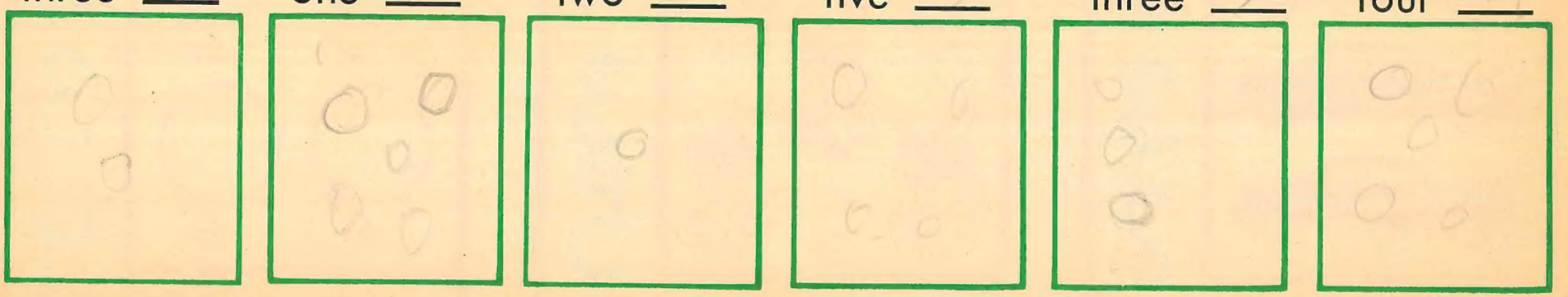
Learning to construct the semi-concrete group patterns for the numbers from 1 to 5. Children first construct groupings with disks. They then draw the disk pattern and write the symbol for the number names below the boxes.



one two three four five

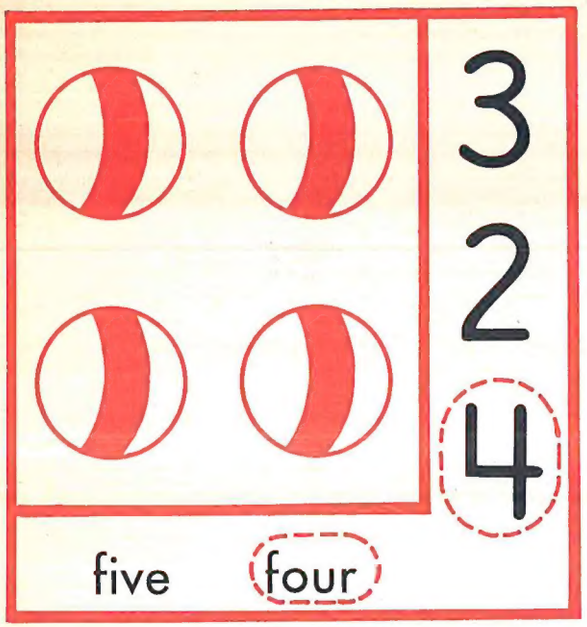


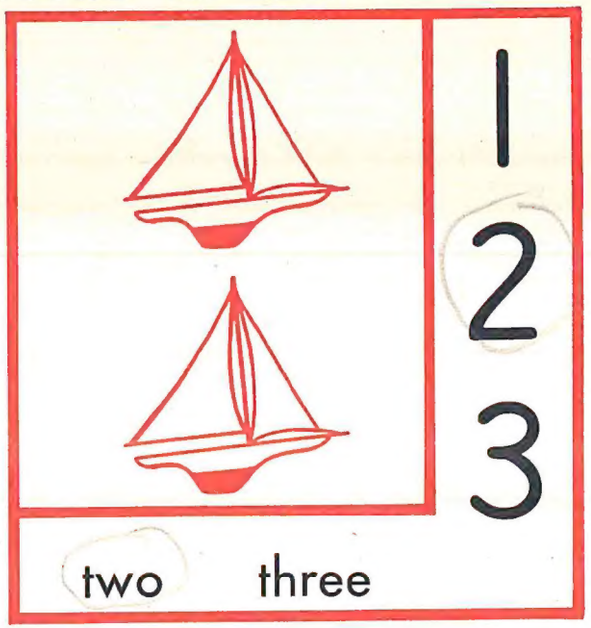
three 3 one 1 two 2 five 5 three 3 four 4

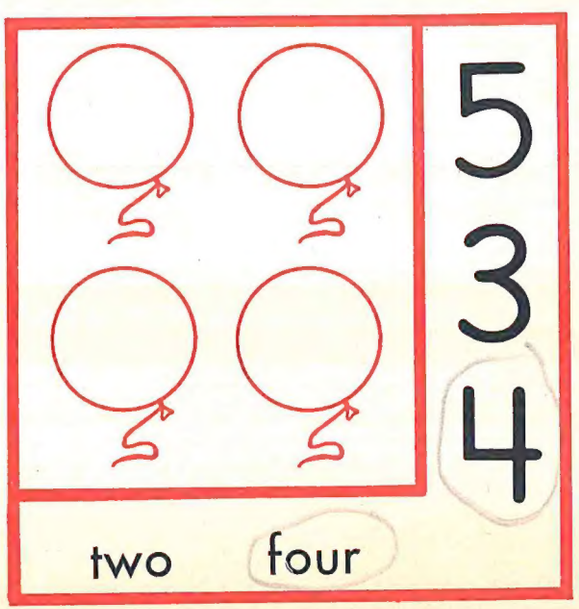


two 2 five 5 one 1 four 4 three 3 five ___

Draw a line around the number that tells how many.

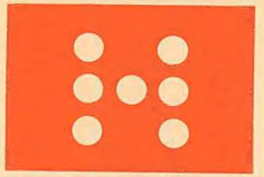
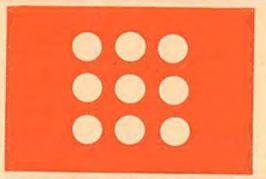
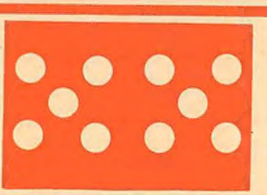




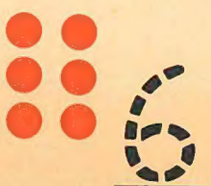


Identifying quantities from 1 to 5 arranged in geometric patterns. Children identify the quantity pictured and circle the matching number symbol beside the picture and the matching number name below the picture.

Learning various ways to express each of the numbers from 6 to 10. Children use concrete objects, the pictured objects, the number symbol, the semi-concrete grouping, and the number name. They also show each number as on page 1

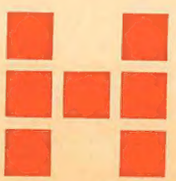
	6		six
	7		seven
	8		eight
	9		nine
	10		ten

seven 7 nine 9 six 6 ten 10 eight 8



6

9



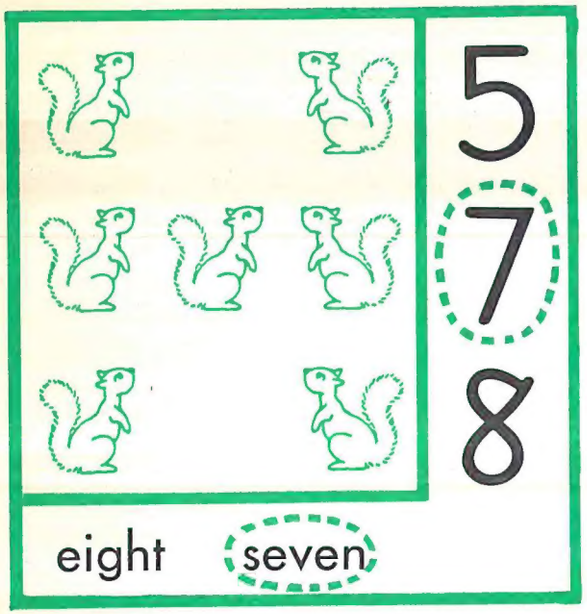
7

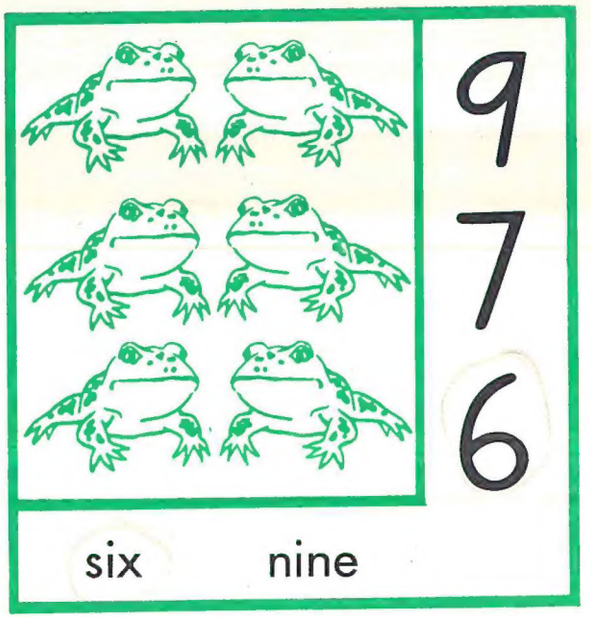
8

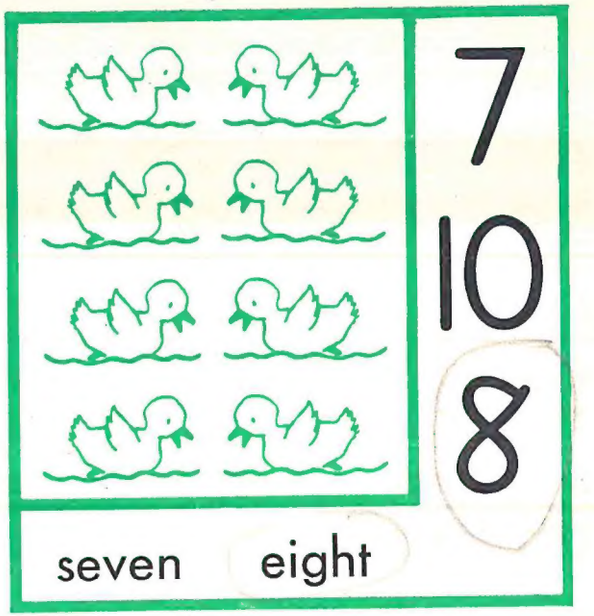
10

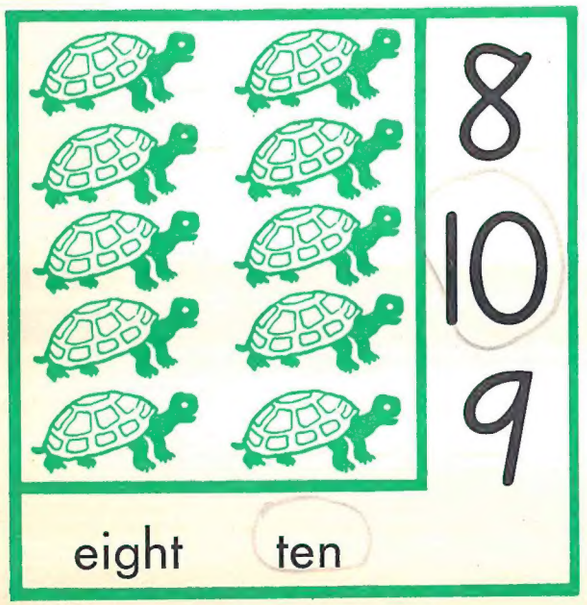
A

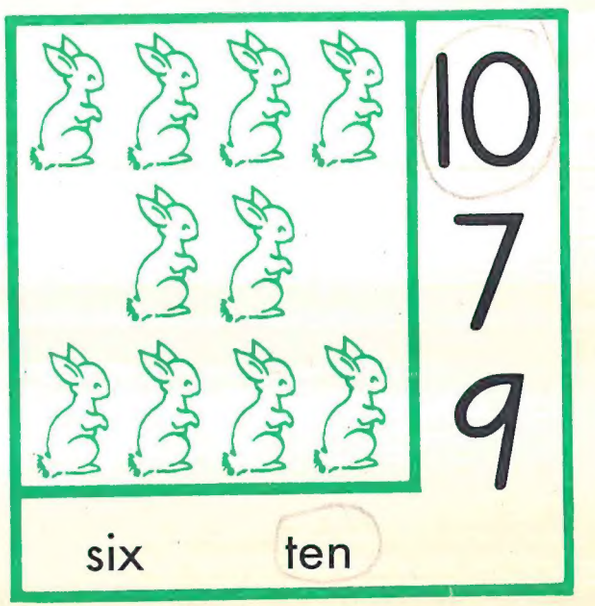
Draw a line around the number that tells how many.







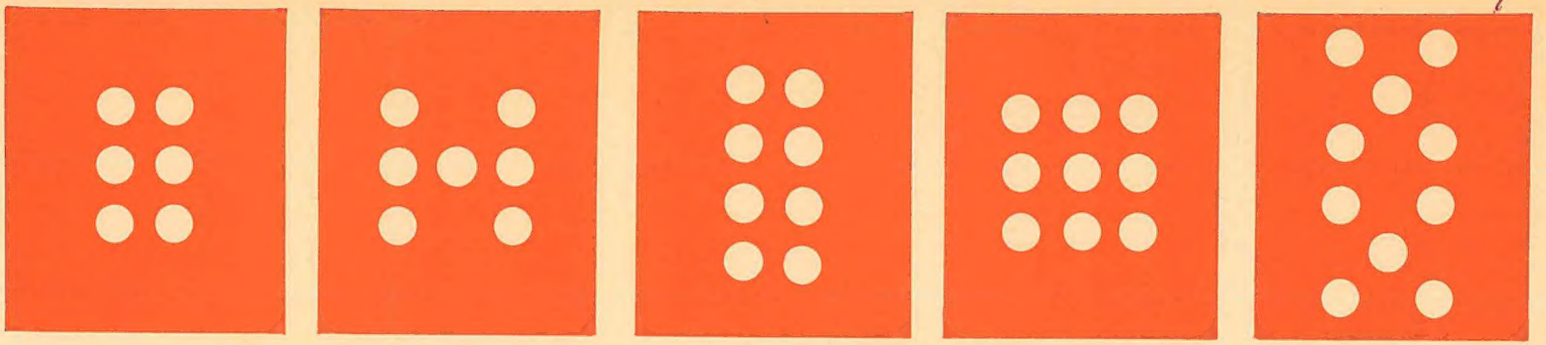




Identifying quantities from 6 to 10 arranged in group patterns.
Children identify the quantity pictured and circle the matching number symbol beside the picture and the matching number name below the picture.

A-

Learning to construct the semi-concrete group patterns for the numbers from 6 to 10. Children first construct groupings with disks. They then draw the disk patterns and write the symbol for the number names below the boxes.



six seven eight nine ten

nine 9 six 6 eight 8 ten 10 seven 7

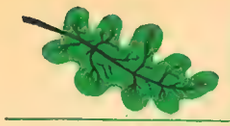
eight 8 seven 7 nine 9 six 6 ten 10

Correct writing of numbers from 1 to 10. Call children's attention to the correct starting point as indicated by the small cross and the broken line. Explain that the correct direction of the stroke is indicated by the direction of the arrow.

A

1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9
10	10	10	10	10	10	10	10	10	10

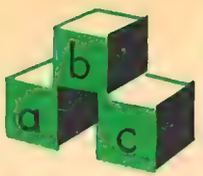
Exploratory Readiness Test, Part I, Knowledge of Numbers. See the Teachers Edition for detailed directions for giving and scoring Part I and for analyzing results. This is the first of five parts of the readiness test.

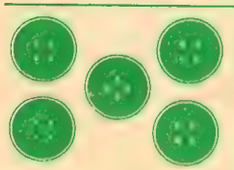
	6	8	7	5	3
	14	54	23	24	42
	06	80	60	6	61
	97	82	38	20	79
	4	$4.00	$.04	$.40	
	$47	74¢	47	47¢	
	_____		_____		_____
	_____		five _____		seventeen ____
	eight _____		one half ____		

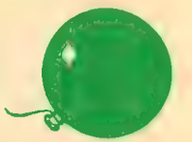
Write the number that tells how many.

Identifying semi-concrete group patterns for numbers from 1 to 9 and writing the number symbol. Children will identify the semi-concrete group and write the correct number symbol beside the group picture.

Exploratory Readiness Test, Part II, Showing How Many. See the Teachers Edition for detailed directions for giving and scoring Part II and for analyzing the results. This is the second of five parts of the readiness test.







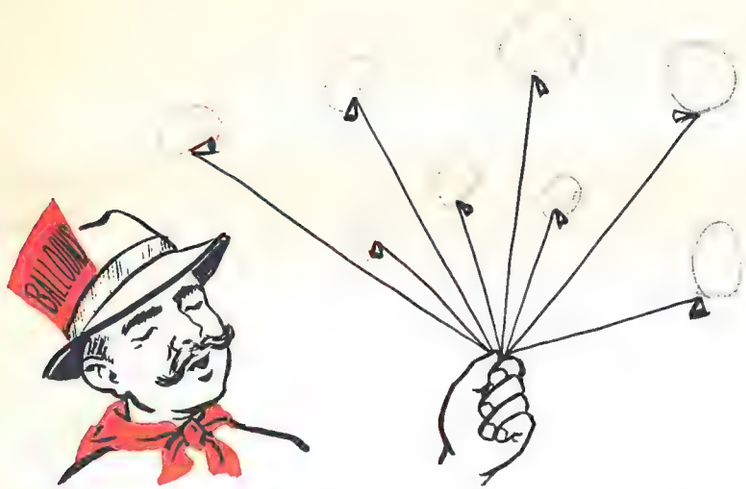
birds

cents

cents

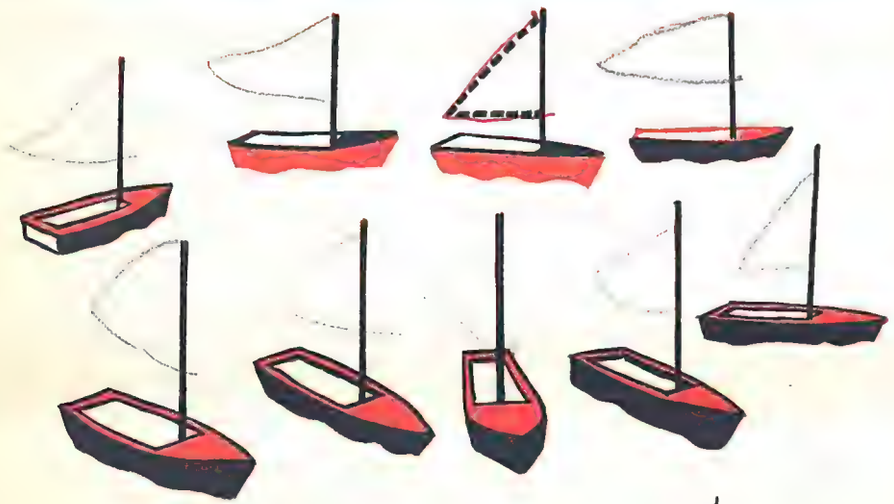
cents

half apples



Draw 8 s in his .

Draw 2 s by the big .



Draw the sails on 9 s.

Draw 4 in the big .

3 and 2 are 25.

1 and 4 are 5.

3 and 3 are 6.

4 and 2 are 6.

2 tens 3 ones

23 in all

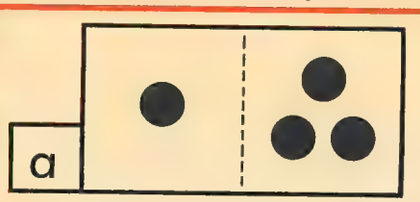
cents

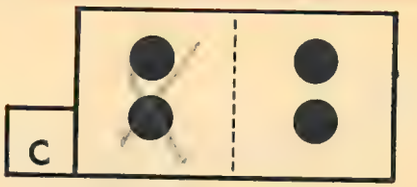
5 take away 1 = 2

3 take away 2 = 1

4 take away 3 = 2

2 take away 2 = 0





Exploratory Readiness Test, Part III, Showing How Many. See the Teachers Edition for detailed directions for giving and scoring Part III. This is the third of five parts of the readiness test.

Draw 3 blue Os in the big  .

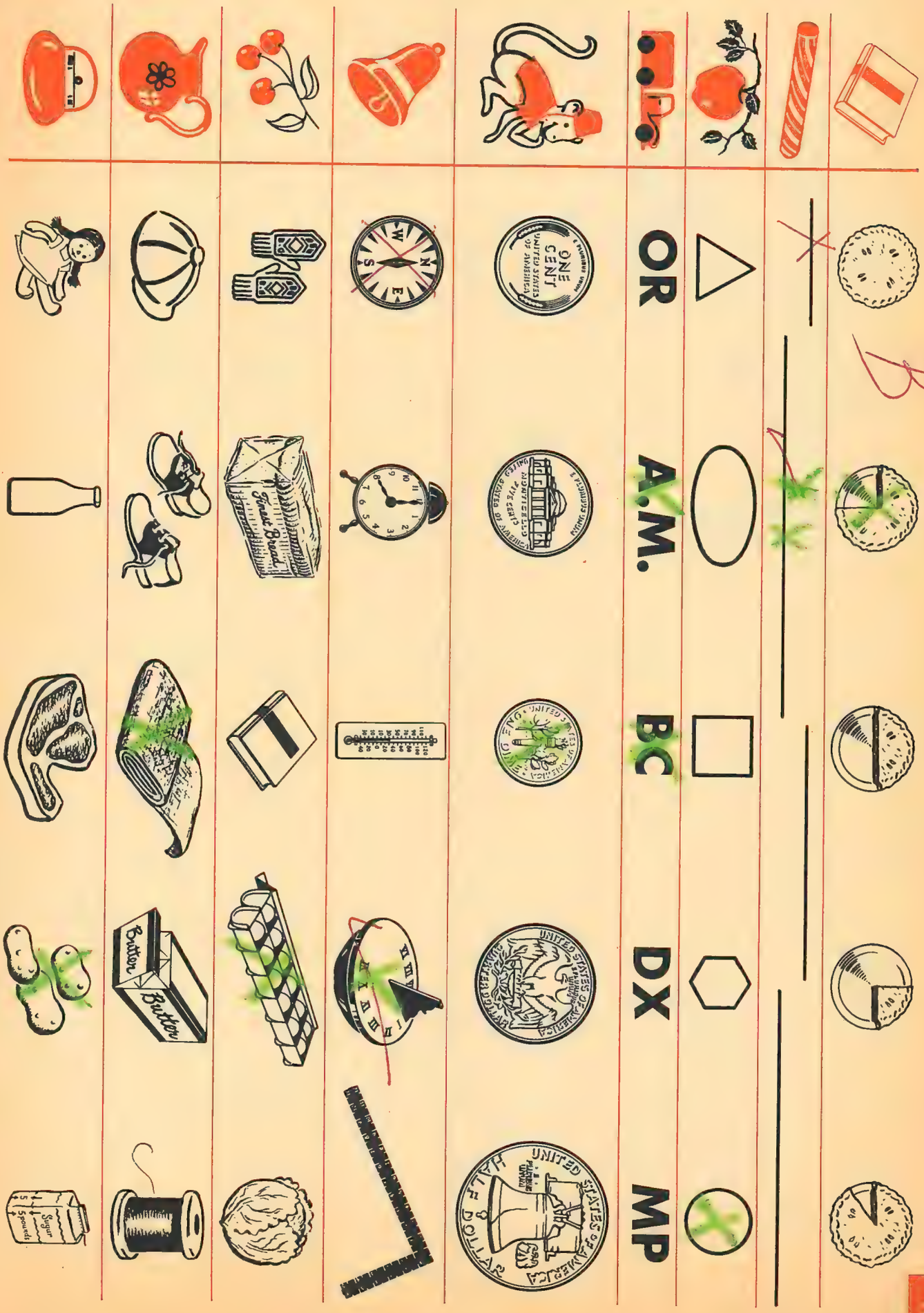
Draw 5 s in the big  .

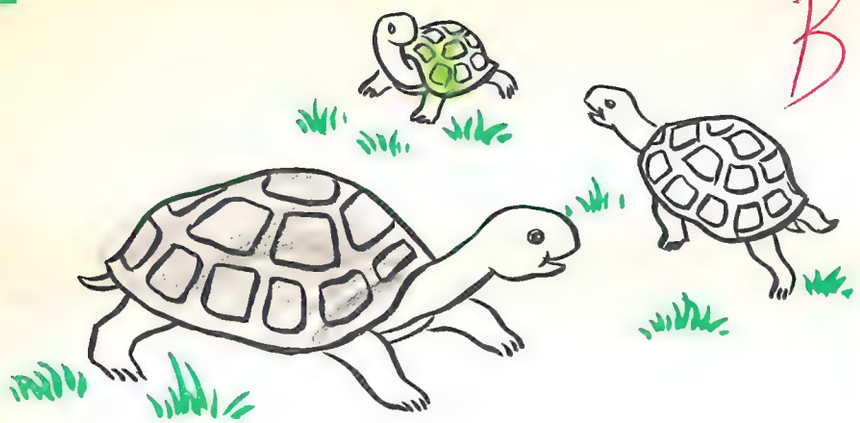
Draw 7 s on the big  .

Draw 6  s in the big  .

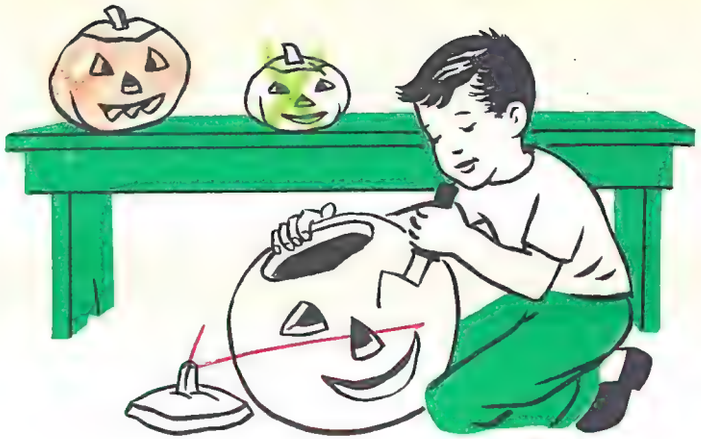
Completing pictures by drawing a specified number of objects in the picture. Children read the directions and draw the number of objects specified.

Exploratory Readiness Test, Part IV, Vocabulary of Arithmetic. See the Teachers Edition for detailed directions for giving and scoring Part IV. This is the fourth of five parts of the readiness test.





Color the largest.
Put X on the smallest.



Color the largest  .
Put X on the smallest.

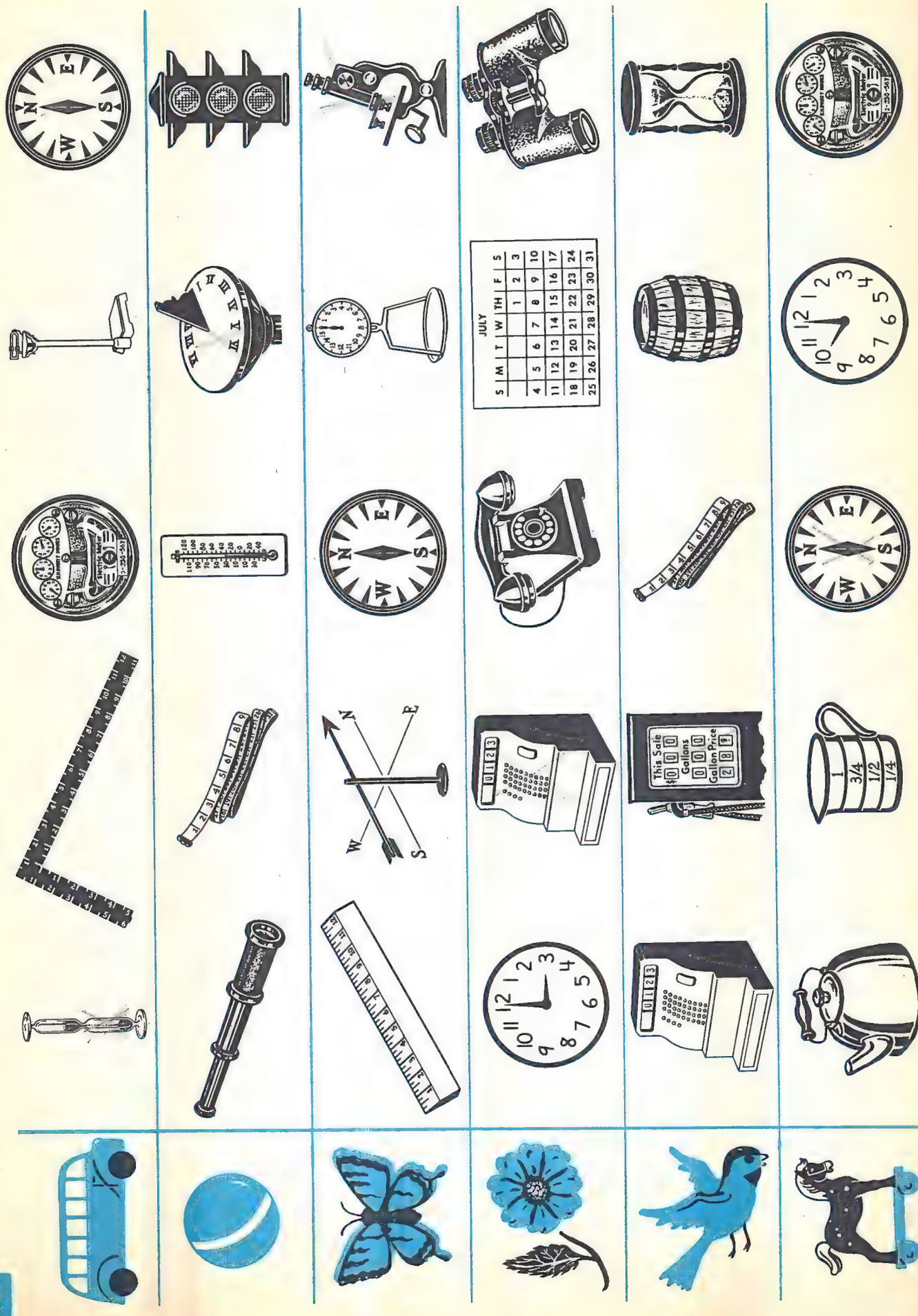
Put X on the tallest.
Color the shortest.

Color the tallest.
Put X on the shortest.

Terms of comparison: largest, smallest, tallest, shortest. Children talk about the pictures on the page as the teacher writes the key words on the blackboard. Children then carry out the directions.

Exploratory Readiness Test, Part V, Everyday Uses of Arithmetic. Give pages 17 and 18 as one test. See the Teachers Edition for directions for giving, scoring, and analyzing.

Exploratory Readiness Test, Part V, Continued, Everyday Uses of Arithmetic. The total score of the Readiness Test, Parts I to V will indicate the child's number readiness. This score will guide the teacher in future work.



Ordinal numbers—first, second, third, fourth, and fifth. Demonstrate in class how ordinal numbers are terms of location. Then, in each box, the children underline the word which tells location of the child who has that toy.

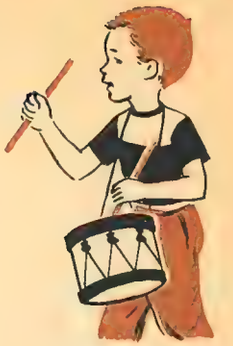
A

first

second

third

fourth



fifth

 second first third	 fourth fifth third	 fourth second third	 fifth third fourth
 fourth third second	 third fourth fifth	 first fifth fourth	 fourth fifth first
 first fourth fifth	 fifth fourth first	 first second third	 third fifth fourth

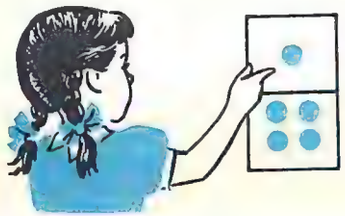
Sally took a sheet of paper. She took 5 disks.
She put 4 disks at the top, like this:  .
She put 1 disk at the bottom, like this:  .
Sally will now tell you how she shows a number story.

Point to the 4 disks.
Say, "4."

Point to the 1 disk.
Say, "and 1."

Circle all the disks.
Say, "are 5."
Now say, "4 and 1 are 5."

Now slide the paper around so that the 1 disk is at the top.



Point to the 1 disk.
Say, "1."

Point to the 4 disks.
Say, "and 4."

Circle all the disks.
Say, "are 5."
Now say, "1 and 4 are 5."

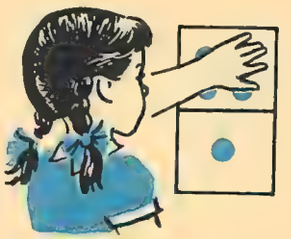
The suggested procedure for showing the meaning of related addition number facts with disks. Each child is supplied with disks and follows each step shown by Sally in the series of pictures. Later lessons follow this procedure.

Sally made a disk picture of 5 with 4 at the top.

She will now tell you how she shows the take-away stories.

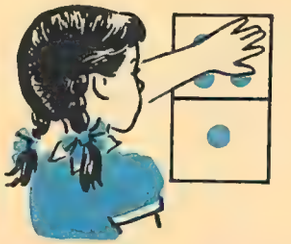
Circle all the disks.

Say, "5."



Cover the 4 disks.

Say, "take away 4."



See how many are left.

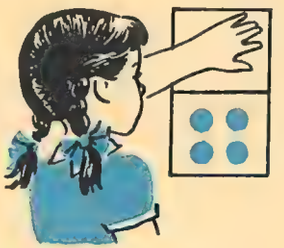
Say, "is 1."

Now say, "5 take away 4 is 1."

Now slide the paper around so that the 1 disk is at the top.

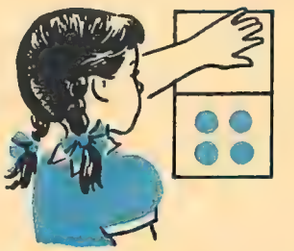
Circle all the disks.

Say, "5."



Cover the 1 disk.

Say, "take away 1."



See how many are left.

Say, "are 4."

Now say, "5 take away 1 are 4."

The first of several procedures for showing the meaning of related subtraction number facts with disks. Each child is supplied with disks and follows each step shown by Sally in the series of pictures on pages 20 and 21. (A learning pattern.)

first second third fourth fifth sixth

Write the number in the hand of:

the first clown 1

the third clown 4

the fifth clown 5

the second clown 2

the fourth clown 1

the sixth clown 3

Write the number of ● s on the 👕 of:

the third clown 5

the first clown 1

the fourth clown 4

the sixth clown 1

the fifth clown 2

the second clown 3

two 2 five 5 seven 7 one 1 eight 8

six 6 four 4 three 3 ten 10 nine 9

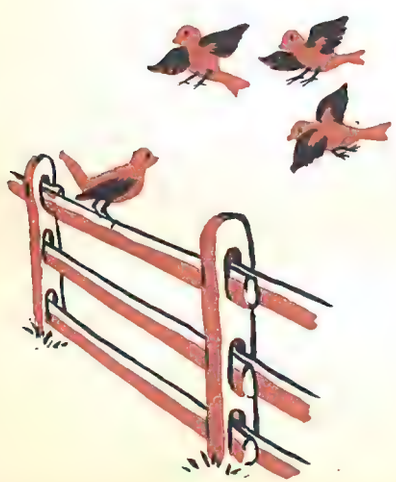
Further practice on ordinal numbers extended to sixth. Numbers held by the clowns are used in counting. Ordinal names below the clowns are used in location. The buttons on the clowns' suits review the semi-concrete group patterns for numbers. The children write the missing numbers.

Visualizing groups of related facts. Following the suggested procedure on pages 20 and 21, children find the answers to the four related groupings in the top row. They do this for each of the three rows. They then write the missing answers.

How Many Are There in All?

1 + 1 = 2	1 + 2 = 3	2 + 1 = 3	2 + 2 = 4	1 + 3 = 4	3 + 1 = 4

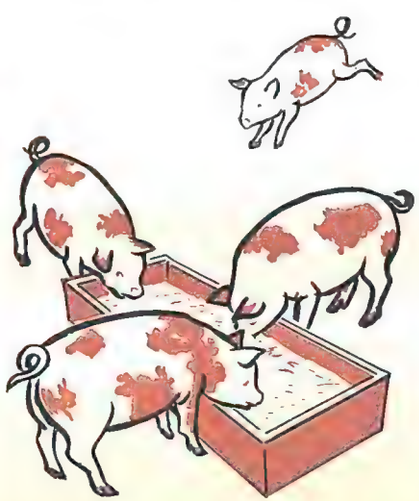
2 + 1 = 3	1 + 1 = 2	1 + 3 = 4	1 + 2 = 3	3 + 1 = 4	2 + 2 = 4	1 + 1 = 2	2 + 1 = 3	1 + 3 = 4	2 + 2 = 4	1 + 2 = 3	3 + 1 = 4
3 + 1 = 4	1 + 3 = 4	1 + 2 = 3	2 + 2 = 4	1 + 1 = 2	3 + 1 = 4	2 + 1 = 3	2 + 2 = 4	1 + 1 = 2	1 + 2 = 3	2 + 1 = 3	1 + 3 = 4



___ ✓ on the ___

___ ✓ s come.

___ ___ s in all



___ ✓ s at the ___

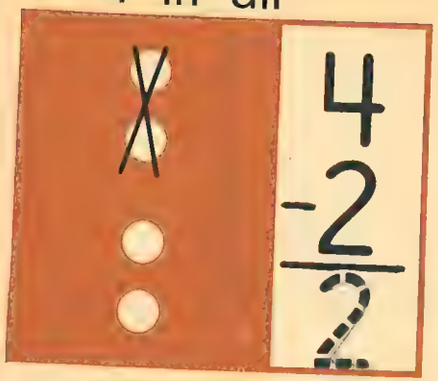
___ ✓ comes.

___ ___ s in all

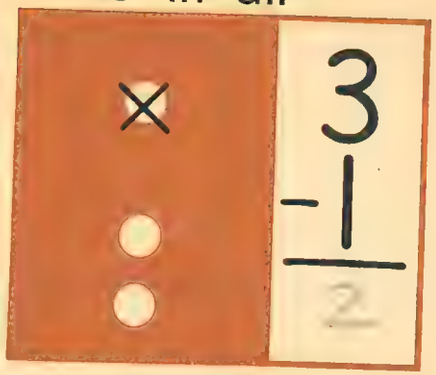
Testing number facts in addition through the 4's. Children cover the box giving the facts with the answers and refer to them only when they need to. This lesson can be used for oral responses in class before the page is given as a written test.

Visualizing the meaning of subtraction number facts through the 4's. Number in all above each box emphasizes that subtraction begins with the total. Children see the incomplete example and use the picture to find the missing number.

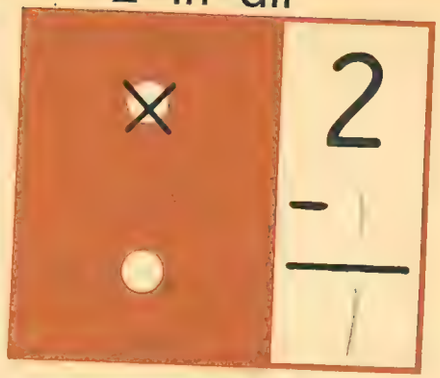
4 in all



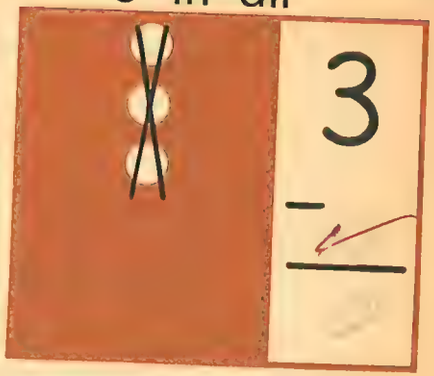
3 in all



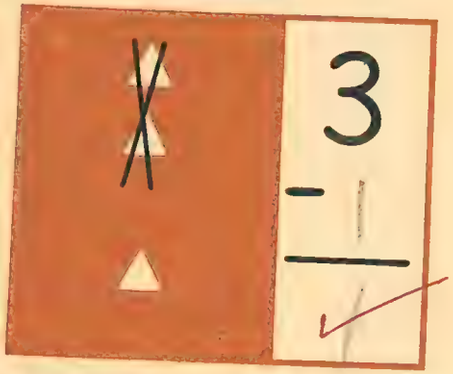
2 in all



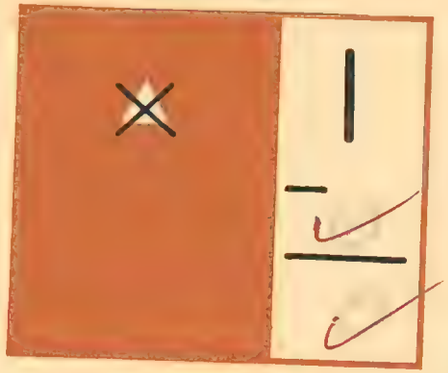
3 in all



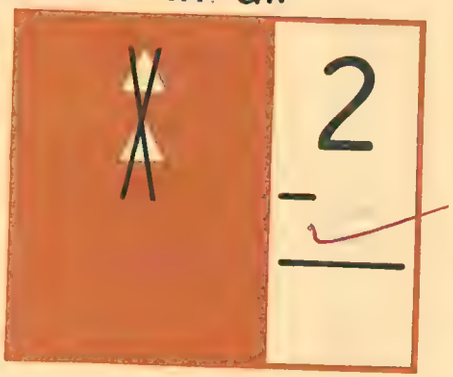
3 in all



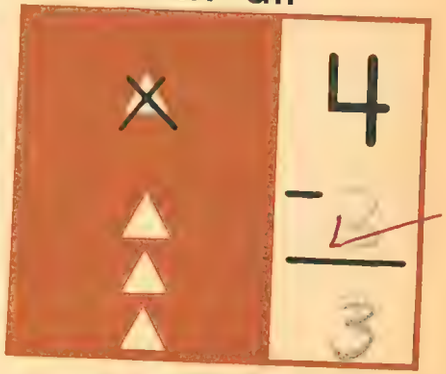
1 in all



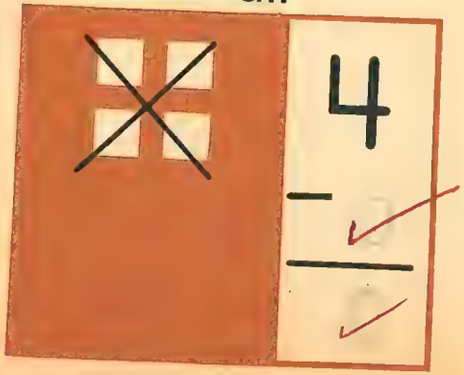
2 in all



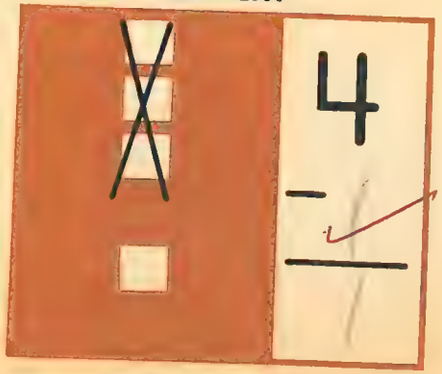
4 in all



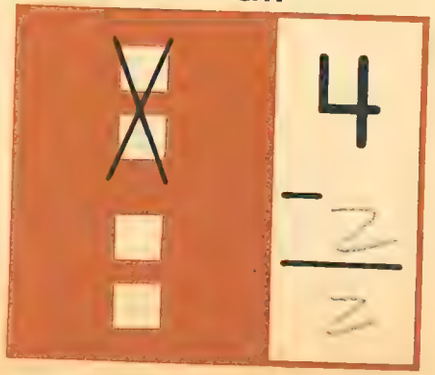
4 in all



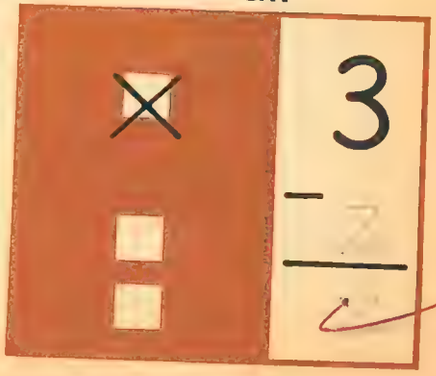
4 in all



4 in all



3 in all



How Many Are Left?

1	2	2	3	3	3	4	4	4	4
−1	−1	−2	−1	−2	−3	−1	−2	−3	−4
0	1	0	2	1	0	3	2	1	0

4	3	4	4	2	3	4	3	4	2	1	4
−1	−1	−2	−3	−1	−2	−2	−1	−3	−1	−1	−4
3	2	2	1	1	1	2	2	1	1	0	0

3	2	4	3	4	4	3	4	4	4	2	4
−2	−1	−1	−2	−4	−2	−1	−3	−1	−4	−2	−3
1	1	3	1	0	2	2	1	3	0	0	1

There were 4  s

on the  .

Jack takes ___  s.

___  s are left.

There were 4  s

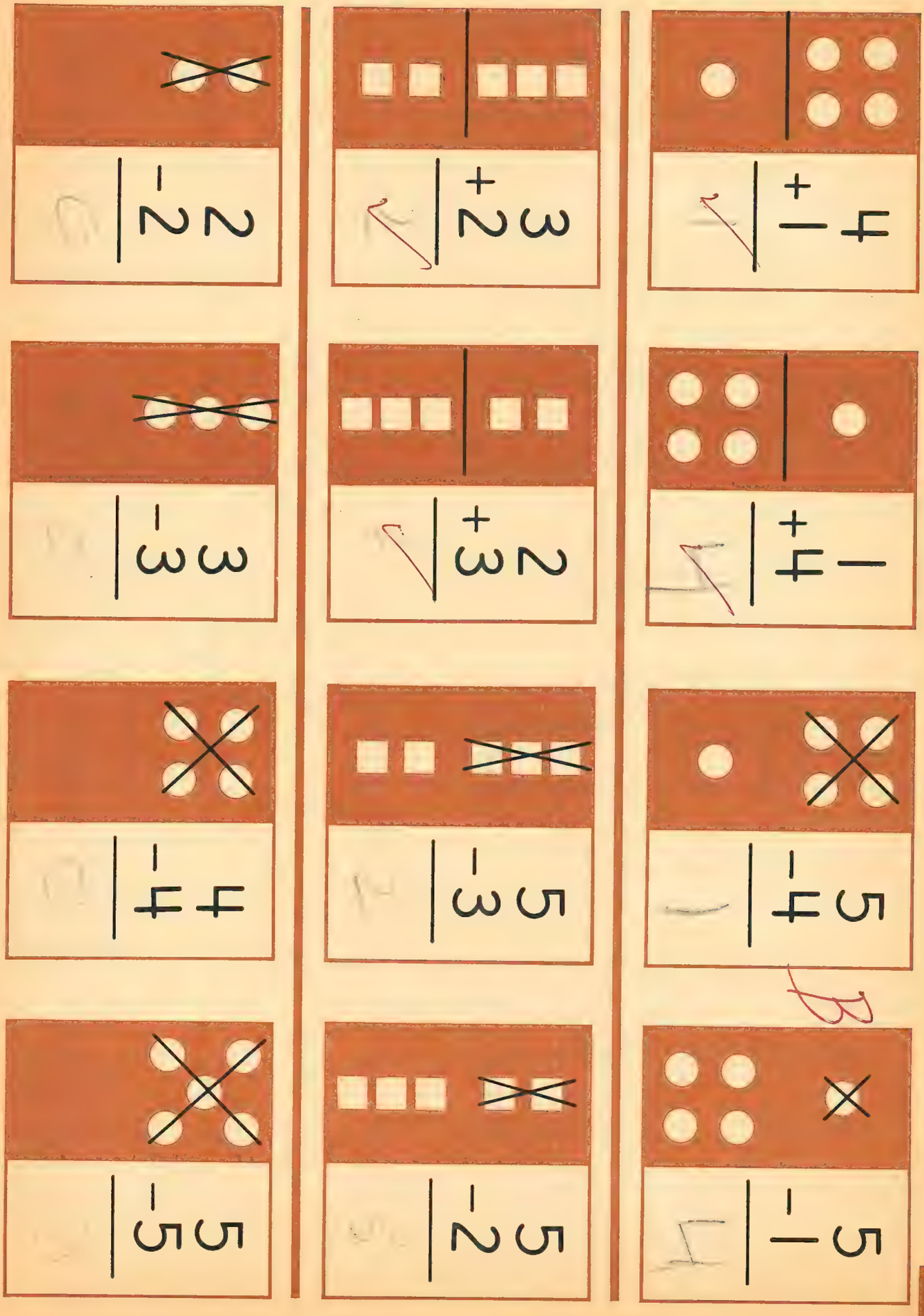
in the  .

Jim takes ___  .

___  s are left.

Testing number facts in subtraction through the 4's. Children cover the box giving the facts with the answers and refer to them only when they need to. This lesson can be used for oral responses in class before the page is given as a written test.

Visualizing groups of related facts. Following the suggested procedure on pages 20 and 21, the children find the answers to the four related groupings in the top row. They do this for the next row. The last row shows zero as a remainder. Then they write the missing answers.



○○○ ○○	3 + 2 = 5
	4 + 1
	2 + 3
	1 + 4
□□ □□ □	4 + 1
	3 + 2
	1 + 4
	2 + 3

$3 + 2$ $1 + 1$ $1 + 4$ $2 + 2$ $1 + 3$ $2 + 1$ $4 + 1$ $3 + 1$ $2 + 3$ $1 + 4$ $1 + 2$ $3 + 2$

___ s in the

___ s come.

___ s in all

___ on the

___ s in the water

___ s in all

Drawing disk pictures to show the meaning of addition number facts for the 5's. Children lay disks to show the fact. They then draw disks or squares to show the fact. Below each example they write the sum.

How Many Are There in All?

4 + 1 = 5	1 + 4 = 5	3 + 2 = 5	2 + 3 = 5

D

4 + 1	1 + 1	1 + 3	3 + 2	1 + 2	1 + 4	2 + 1	2 + 3	3 + 1	4 + 1	2 + 2	3 + 2
1 + 2	3 + 1	2 + 3	2 + 2	1 + 4	3 + 2	1 + 3	1 + 1	4 + 1	2 + 3	2 + 1	1 + 4

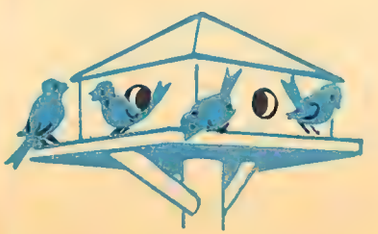
___ s on the

___ s come.

___ s in all

___ s by the

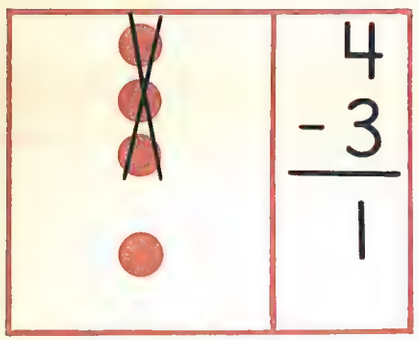
___ comes.



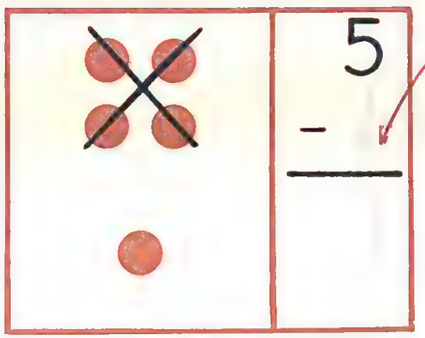
___ s in all

Testing addition number facts through the 5's. Children cover the box giving the facts with the answers and refer to them only when they need to. This lesson can be used for oral responses in class before the page is given as a written test.

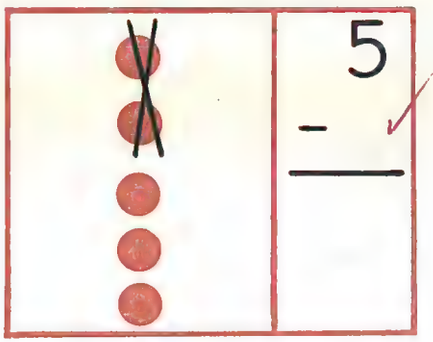
4 in all



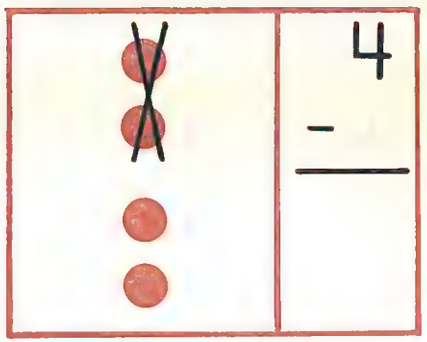
5 in all



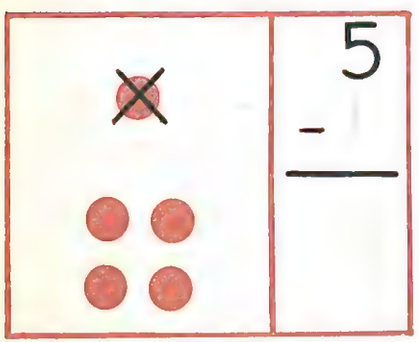
5 in all



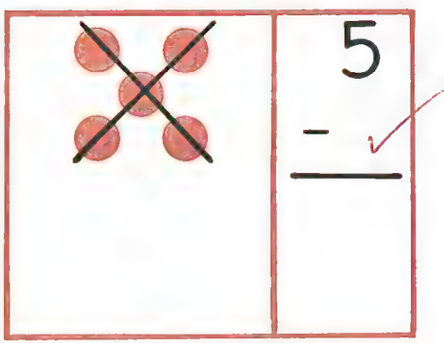
4 in all



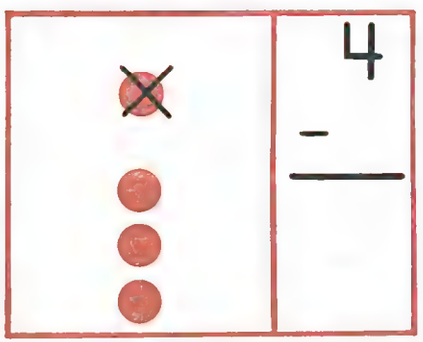
5 in all



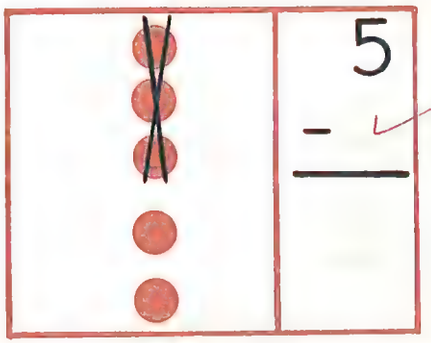
5 in all



4 in all



5 in all



There were 5 s.

See ___ go.

___ s are left.

5 − 1 = ___

There were 5 s.

Away go ___ s.

___ s are left.

5 − 3 = ___

Visualizing the meaning of subtraction number facts through the 5's. Number in all above each box emphasizes that subtraction begins with the total. Children use the pictures to discover the missing numbers to write for each example.

Testing subtraction number facts through the 5's. Children cover the box giving the facts and answers and refer to them only when they need to. This lesson can be used for oral responses before the page is given as a written test.

How Many Are Left?

5 − 1 = 4	5 − 4 = 1	5 − 2 = 3	5 − 3 = 2	5 − 5 = 0

5 − 3 = 2	5 − 4 = 1	3 − 1 = 2	5 − 2 = 3	5 − 5 = 0	5 − 1 = 4	4 − 3 = 4	2 − 1 = 3	5 − 3 = 2	3 − 2 = 1	5 − 2 = 3	4 − 3 = 1
5 − 5 = 0	5 − 1 = 4	4 − 2 = 2	4 − 1 = 3	5 − 4 = 1	4 − 2 = 2	3 − 1 = 2	5 − 1 = 4	5 − 2 = 3	3 − 2 = 1	5 − 4 = 1	5 − 3 = 2

The  had 5  s.

Jane gets 2 s.

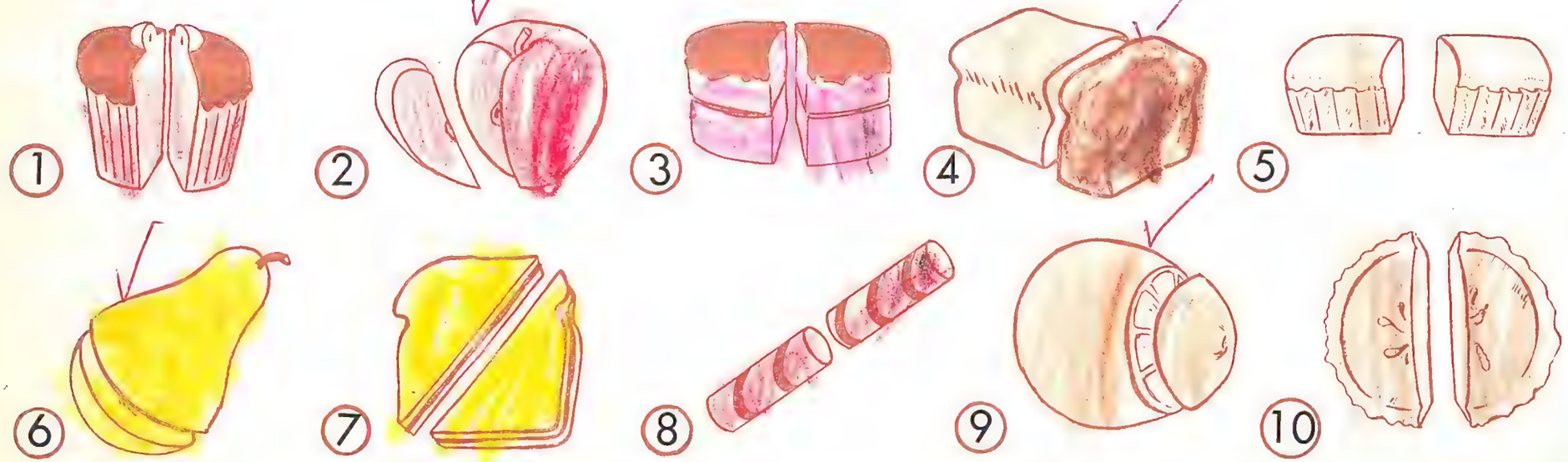
The  has 3 s left.

There were 5  s on the  .

A  pulls off 2  s.

3  s are left on the  .

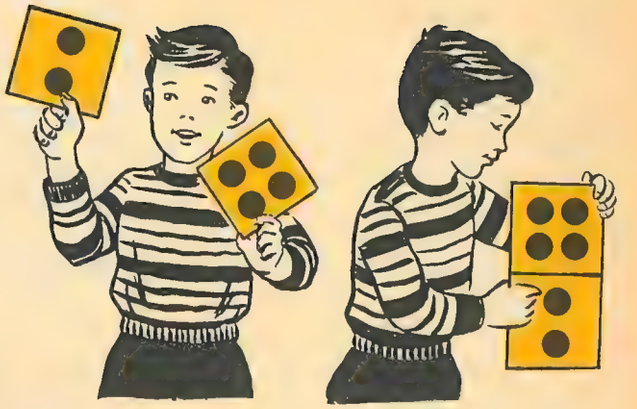
Color each picture of something cut in half.

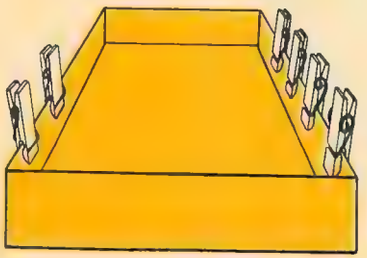


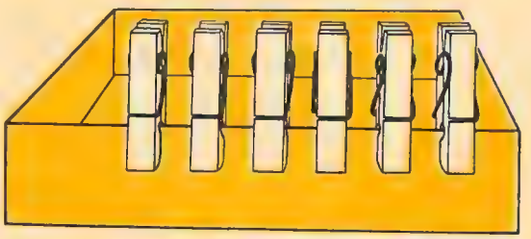
Draw a line to show each cut in half.

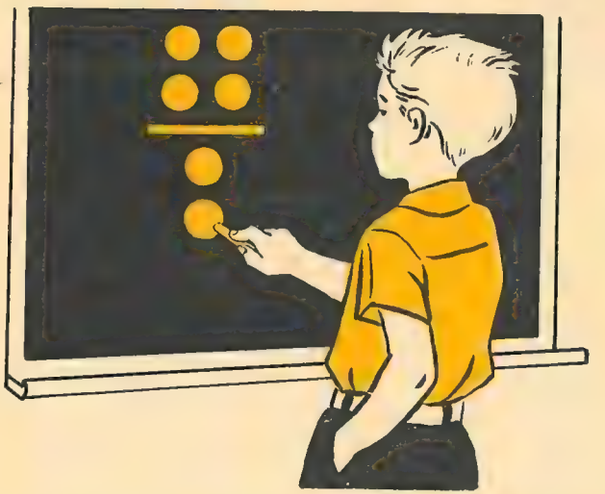
Teaching half of a whole. This lesson shows that we start with one whole object. We divide it into two equal parts. Children first identify halves. In the bottom row they draw a line to show each object divided in half.

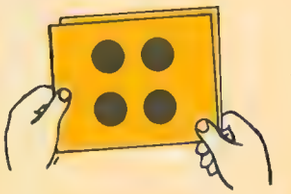
Ways to Show Adding

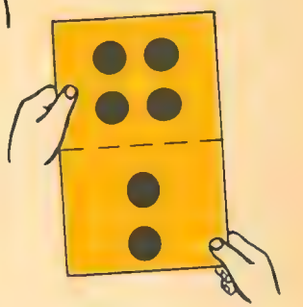












Choose a number story below. Choose one of these ways to show it.

$\begin{array}{r} 5 \\ +\,1 \\ \hline \end{array}$ $\begin{array}{r} 1 \\ +\,5 \\ \hline \end{array}$ $\begin{array}{r} 4 \\ +\,2 \\ \hline \end{array}$ $\begin{array}{r} 2 \\ +\,4 \\ \hline \end{array}$ $\begin{array}{r} 3 \\ +\,3 \\ \hline \end{array}$ $\begin{array}{r} 4 \\ +\,1 \\ \hline \end{array}$ $\begin{array}{r} 1 \\ +\,4 \\ \hline \end{array}$ $\begin{array}{r} 3 \\ +\,2 \\ \hline \end{array}$ $\begin{array}{r} 2 \\ +\,3 \\ \hline \end{array}$

joining of two smaller groups to make one larger group. Children will use these ways to demonstrate the number stories given here and also in addition lessons to follow.

Visualizing groups of related facts. Following the suggested procedure on pages 20 and 21, children find the answers to the four related groupings in the top two rows. The last row shows zero as a remainder. Children write the answers.

Visualizing the meaning of addition number-facts through the 6's. The children determine the addition number fact shown in each picture and write the complete number fact beside the picture.

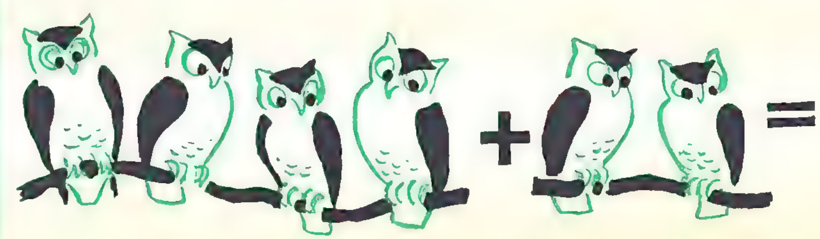
$$\begin{array}{r} 3 \\ +\,1 \\ \hline \end{array} \qquad \begin{array}{r} 2 \\ +\,2 \\ \hline \end{array} \qquad \begin{array}{r} 4 \\ +\,2 \\ \hline \end{array} \qquad \begin{array}{r} 3 \\ +\,3 \\ \hline \end{array} \qquad \begin{array}{r} 1 \\ +\,2 \\ \hline \end{array} \qquad \begin{array}{r} 1 \\ +\,4 \\ \hline \end{array} \qquad \begin{array}{r} 5 \\ +\,1 \\ \hline \end{array} \qquad \begin{array}{r} 3 \\ +\,2 \\ \hline \end{array} \qquad \begin{array}{r} 4 \\ +\,1 \\ \hline \end{array} \qquad \begin{array}{r} 1 \\ +\,5 \\ \hline \end{array} \qquad \begin{array}{r} 2 \\ +\,3 \\ \hline \end{array} \qquad \begin{array}{r} 2 \\ +\,4 \\ \hline \end{array}$$

How Many Are There in All?

$3 + 3 = 6$	$5 + 1 = 6$	$1 + 5 = 6$	$4 + 2 = 6$	$2 + 4 = 6$

$1 + 5$	$3 + 3$	$4 + 1$	$3 + 2$	$2 + 4$	$2 + 2$	$4 + 2$	$5 + 1$	$2 + 4$	$3 + 1$	$1 + 2$	$5 + 1$
$3 + 3$	$2 + 3$	$4 + 2$	$1 + 5$	$3 + 3$	$1 + 1$	$2 + 4$	$1 + 3$	$5 + 1$	$3 + 2$	$1 + 5$	$4 + 2$
$1 + 4$	$3 + 3$	$5 + 1$	$2 + 3$	$2 + 1$	$2 + 4$	$1 + 5$	$4 + 2$	$3 + 3$	$1 + 4$	$4 + 2$	$1 + 5$

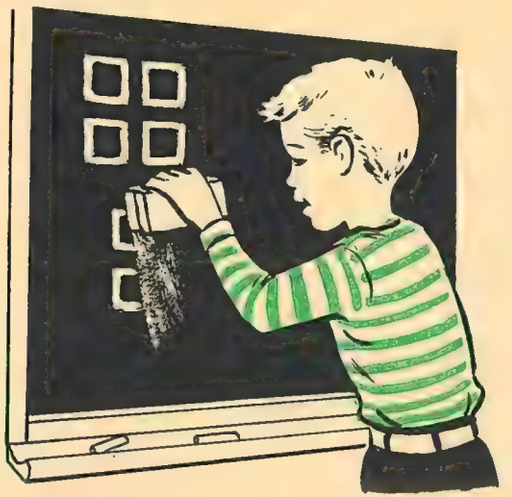
 = ___

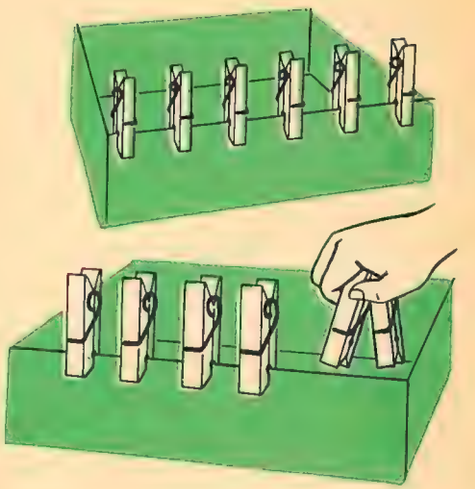
 = ___

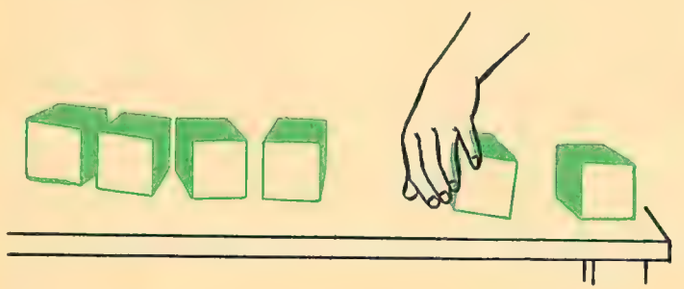
Testing addition number facts through the 6's. Children cover the box giving the facts and answers and refer to them only when they need to. This lesson can be used for oral responses in class before the page is given as a written test.

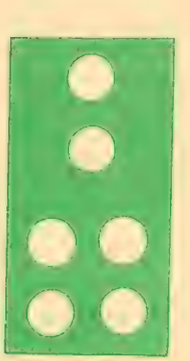
Ways to Show Taking Away

6 in all. Take away 2.





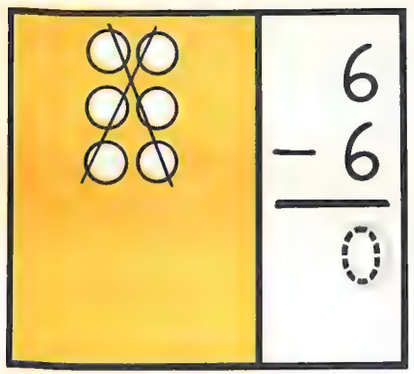


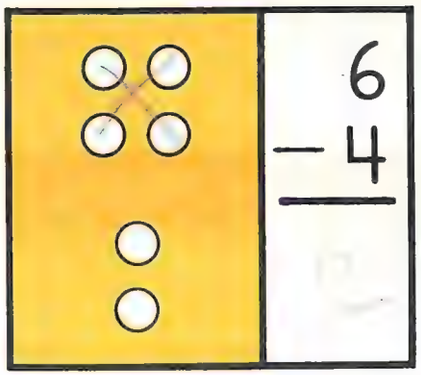


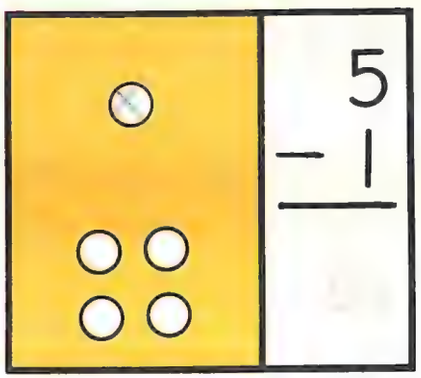
Choose a number story below. Choose one of these ways to show it.

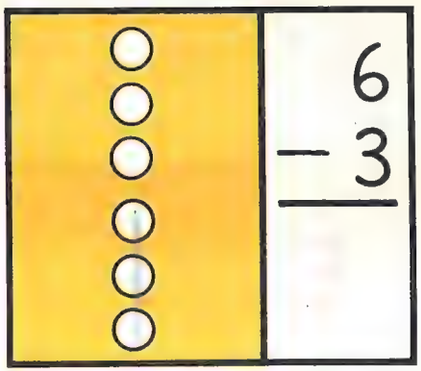
6 − 5	6 − 1	6 − 4	6 − 2	6 − 3	5 − 4	5 − 1	5 − 3	5 − 2

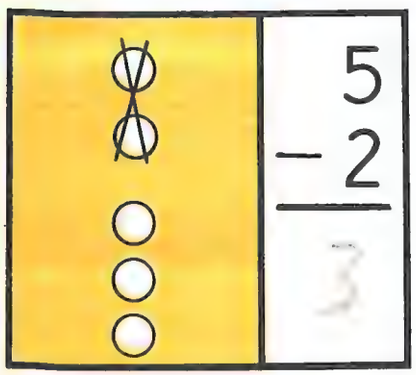
Suggestions for ways children can demonstrate subtracting as taking away. Children will use these ways as they show the number stories at the bottom of the page and also in subtraction lessons to follow.

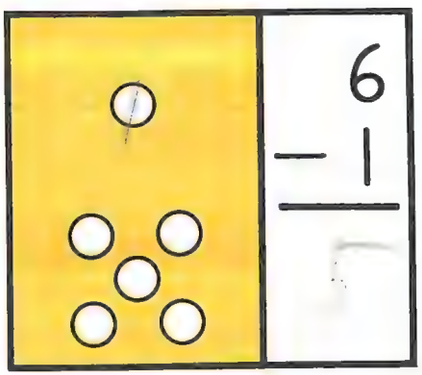


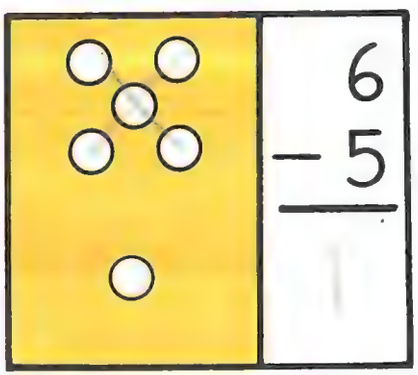


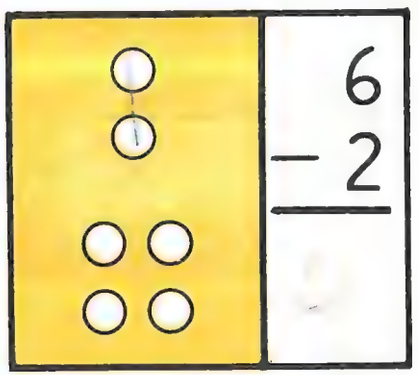












6 − 4 ✓ | 5 − 3 ✓ | 6 − 2 ✓ | 6 − 5 ✓ | 5 − 1 ✓ | 5 − 5 | 6 − 3 ✓ | 6 − 1 ✓ | 5 − 2 ✓ | 5 − 4 | 6 − 6 | 4 − 3

There were 6 s.

See 1 s go.

1 s are left.

There were 6 s.

See 1 go.

5 s are left.

Visualizing the meaning of subtraction number facts through the 6's. Children determine from the number story **how many** are being taken away. They cross out this number in the picture and discover and write the remainder.

How Many Are Left?

6 − 1 = 5	6 − 5 = 1	6 − 2 = 4	6 − 4 = 2	6 − 3 = 3	6 − 6 = 0

6 − 1 = 5	6 − 3 = 3	5 − 4 = 1	5 − 3 = 2	6 − 2 = 4	6 − 6 = 0	4 − 2 = 2	6 − 4 = 2	6 − 5 = 1	6 − 2 = 4	4 − 3 = 1	3 − 1 = 2
6 − 5 = 1	6 − 3 = 3	5 − 2 = 3	6 − 4 = 2	6 − 1 = 5	6 − 3 = 3	2 − 1 = 1	6 − 6 = 0	6 − 2 = 4	4 − 1 = 3	6 − 5 = 1	5 − 3 = 2
6 − 1 = 5	6 − 4 = 2	5 − 1 = 4	6 − 3 = 3	6 − 5 = 1	5 − 2 = 3	3 − 2 = 1	6 − 2 = 4	6 − 4 = 2	6 − 6 = 0	6 − 1 = 5	6 − 5 = 1

6 /s were in the .

I took out 2 /s.

4 /s are left in the .

6 balls

− 1 ball

5 balls

10 ones make 1 ten.

See how ones make numbers grow.

___ ten ___ one

___ in all

___ ten ___ ones

___ in all

___ ten ___ ones

___ in all

___ ten ___ ones

___ in all

___ ten ___ ones

___ in all

___ ten ___ ones

___ in all

___ ten ___ ones

___ in all

___ ten ___ ones

___ in all

___ ten ___ ones

___ in all

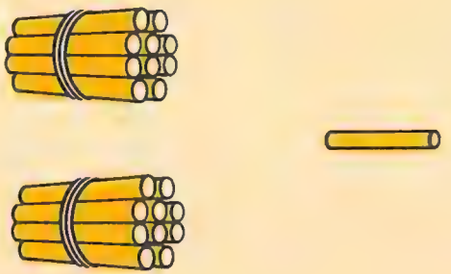
Reviewing place value of two-place numbers as shown with sticks and bundles of tens. As in the first grade, the class should have 10 single sticks and 1 bundle, or 1 ten. The class will demonstrate each number pictured in this lesson.

Watch Numbers Grow

See how tens make numbers grow faster.

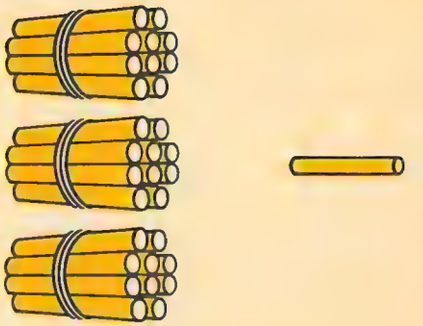
___ ten ___ one

___ in all



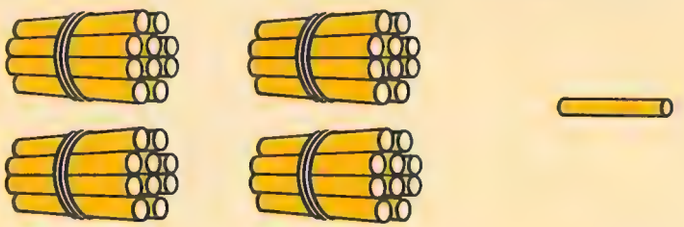
___ tens ___ one

___ in all



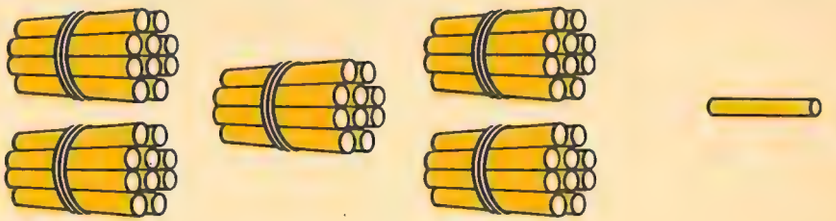
___ tens ___ one

___ in all



___ tens ___ one

___ in all



___ tens ___ one

___ in all

6 tens 1 one

___ in all

7 tens 1 one

___ in all

8 tens 1 one

___ in all

9 tens 1 one

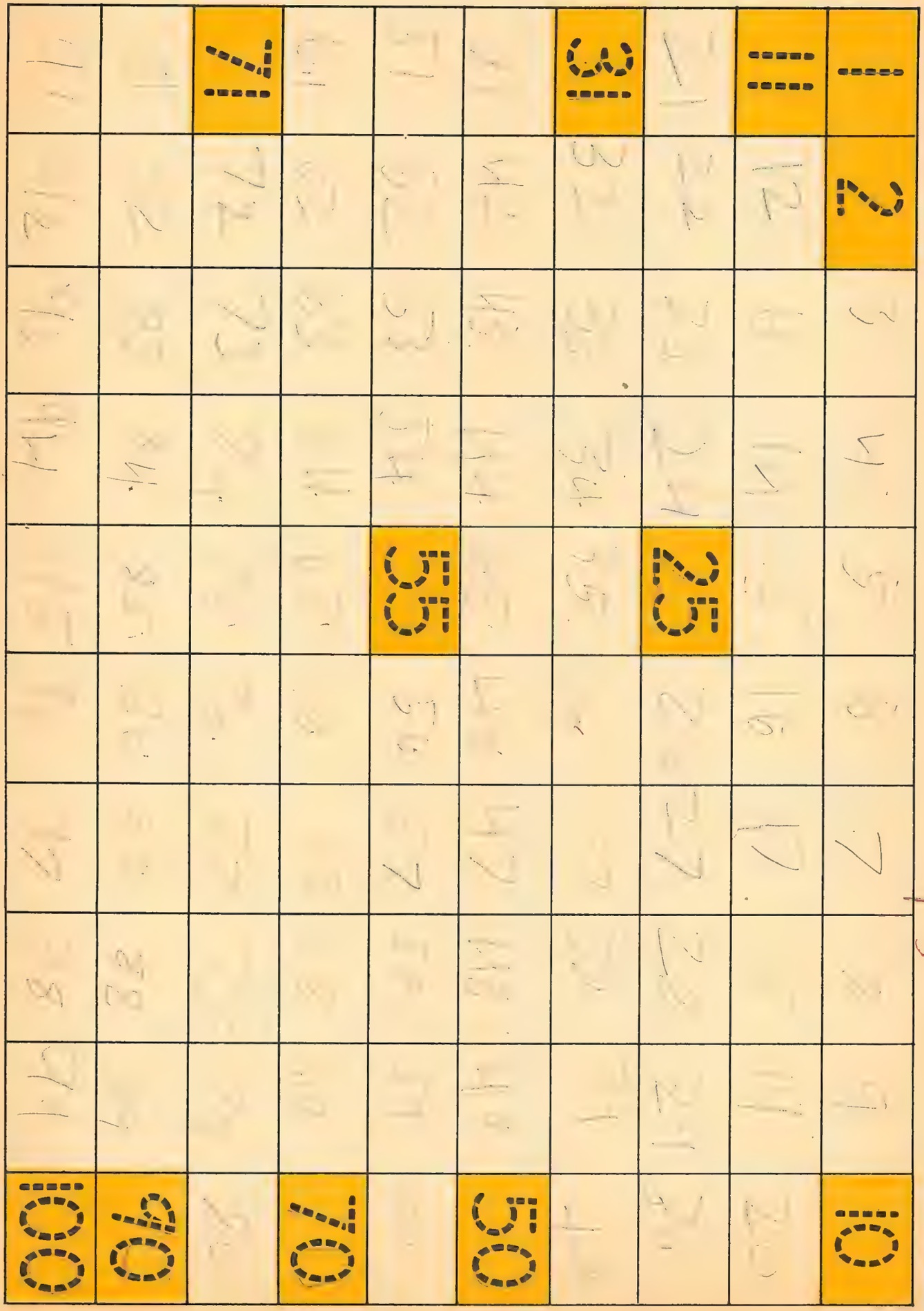
___ in all

and single sticks. The class should have 9 bundles of tens and | lesson and write all the missing numbers.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Counting from 1 to 100. Children read the numbers a row at a time. They are led to discover that each time they get to a 9, they regroup and begin over again with 1, as 17, 18, 19, 20, 21, etc. The Teachers Edition suggests many activities.

Writing numbers from 1 to 100. Children write the missing numbers. They refer to page 42 for help only when they need to. Emphasize writing large numbers that are neat and can be read easily.



A New Way to Show How Numbers Grow

1 one

3 ones

5 ones

7 ones

Here are 10 ones.

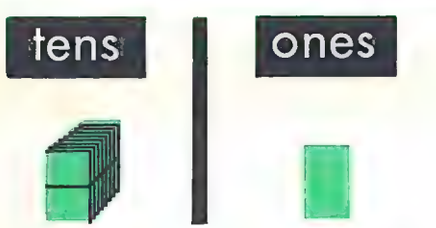
Join 10 ones to make 1 .

Call this 1 ten.

We put the in tens' place.

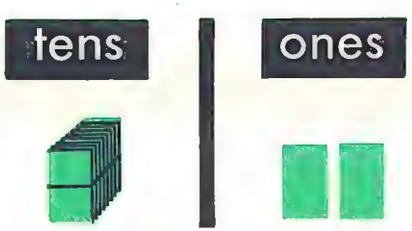
10 ten ✓ ones

10 in all



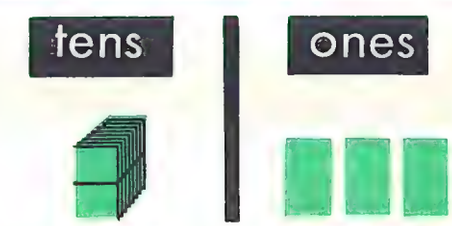
1 ten 1 one

✓ in all



10 ten ✓ ones

✓ in all



10 ten 4 ones

✓ in all

Introducing single tickets and bundles of tens as another way to show the place value of two-place numbers. The class should have 10 single tickets and 1 tens' bundle. The children will demonstrate each number shown in this lesson.

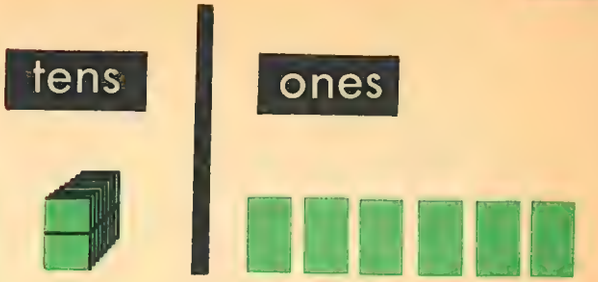
Visualizing the teens and the regrouping from 19 to 20. The children will demonstrate each number in this lesson and show class should have 10 single tickets and 1 tens' bundle. The the regrouping from 1 ten and 9 ones to 2 tens and 0 ones.

1 ten 4 ones

1 in all

1 ten 4 ones

4 in all



1 ten 2 ones

2 in all

1 ten and 3 ones = 4

1 ten and 8 ones = 4

1 ten and 7 ones = 4

1 ten and 9 ones = 4

10 ten 1 ones

We put 10 ones together.

Then we have another .

We put it with the tens.

10 tens 1 ones

11 in all

1 eats.

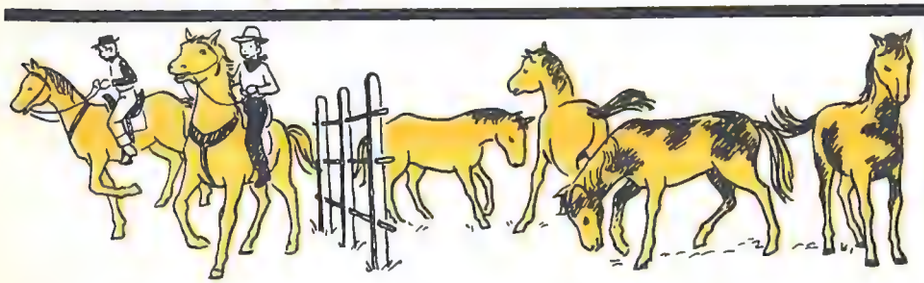
5 s come.

6 s in all

2 boys with s

✓ boys come.

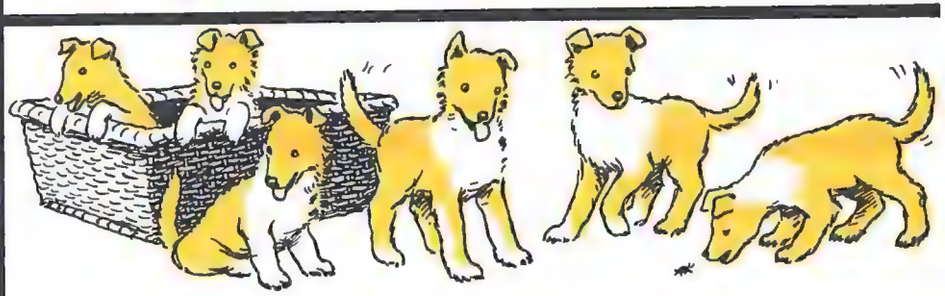
6 boys in all



6 horses in all

2 horses go.

___ horses are left.



6 dogs were in a .

✓ dogs got out of the .

✓ dogs are left in the .

3	1	3	2	4	2	5	6	6	6	6	5
+2	+5	+3	+4	+2	+3	−2	−5	−3	−4	−2	−3
5			✓	✓	✓	3	✓	✓	✓	✓	✓

Visualizing story problems. Children find the numbers needed by studying the situation pictured in the problems. They fill in the missing numbers.

2 tens 4 ones

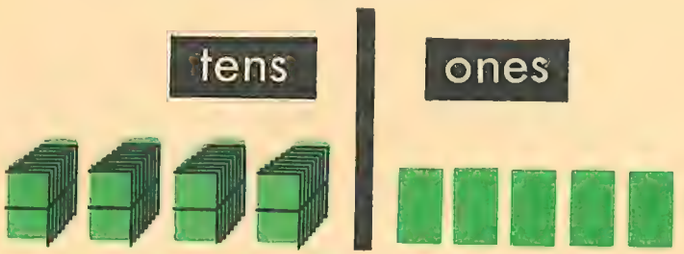
24 in all

7 tens 4 ones

74 in all

3 tens 4 ones

34 in all



4 tens 5 ones

45 in all

15 tens 8 ones

158 in all

6 tens and 0 ones = 60

8 tens and 5 ones = 85

9 tens and 7 ones = 97

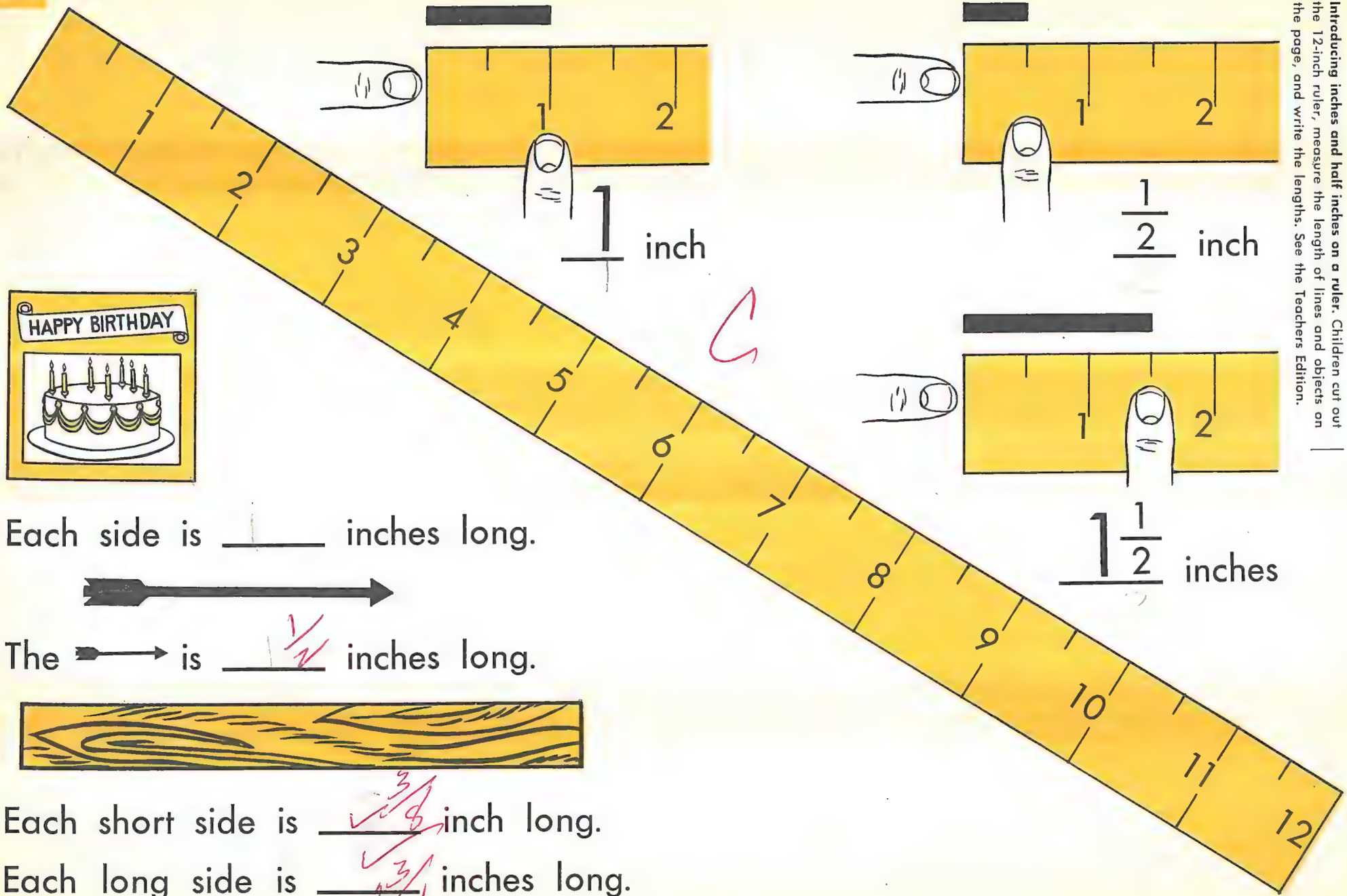
42 = 4 tens and 2 ones

70 = 7 tens and 0 ones

59 = 5 tens and 9 ones

7 single tickets. The children will demonstrate all the numbers in this lesson and write all the missing numbers.

and single tickets. The class should have 9 bundles of tens and



1 inch

$\frac{1}{2}$ inch

$1\frac{1}{2}$ inches

Each side is 1 inches long.

The → is 1/2 inches long.

Each short side is 3/8 inch long.

Each long side is 3/4 inches long.

Introducing inches and half inches on a ruler. Children cut out the 12-inch ruler, measure the length of lines and objects on the page, and write the lengths. See the Teachers Edition.

F

The children sold apples.
Help them count their money.

How many pennies are in each  ? ___

Point to each  as you count by 5's.
Write the numbers you say.

 5  10  15  20  25

 30  35  40  45  50

 55     75

     100

How many pennies have they in all? 100

Write by 5's to 100. Begin with the number 5.

5 10 15 20 25 30 35 40 45 50
55 60 65 70 75 80 85 90 95 100

1 nickel = 5 cents

Count by 5's. Find out how many cents in all.

5 10 ✓ 20

5 40 45 50 55 60

65 70 75 80

On the lines write the numbers you say. Begin with 5.

The children's nickels are 80 cents in all.

Find out how many cents. Count by 5's to find out.

2 nickels = 10 cents

7 nickels = 35 cents

3 nickels = 15 cents

8 nickels = 4 cents

5 nickels = ____ cents

10 nickels = 50 cents

Continuation of the social situation introduced on page 49— counting by 5's. On page 49 children counted piles of five coins as they said, "5," "10," "15," etc. In this lesson they point to one coin which has the value of the five pennies.

1

2

5

6

3

4

7

8

In one hour the long hand went all the way around the clock.

The short hand went from one number to the next number.

In one half hour the long hand went half way around the clock.

The short hand went half way between 3 and 4.

movement of the long and the short hands as clock 1 changes | to clock 2. Pictures 7 and 8 show hand changes from clock 5 to clock 6. Children see the meaning of **half past.**

Clock Hands Show Time

Use sticks for clock hands.
Lay them on the clock
to show:

five o'clock
ten o'clock
one o'clock
nine o'clock
twelve o'clock

half past two
half past four
half past nine
half past six
half past eleven
half past twelve

Demonstrating hour and half hour on the clock face by laying the hands in place. The teacher will supply pieces of paste sticks, toothpicks, or strips of cardboard. The children will lay the clock hands in place to show the time indicated.

Morning.
I get up.
7 o'clock

Breakfast time.
I eat a good breakfast.
8 o'clock

Time to go to school.
Off to school I go!
Half past 8

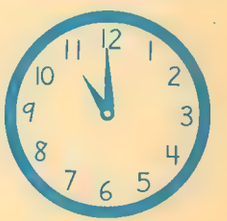
The bell rings.
School begins.
9 o'clock

Time to read.
I like to read.
Half past 9

The bell rings.
Out to play.
10 o'clock

Time to sing.
I like to sing.
Half past 10

Time for numbers.
I like numbers.
11 o'clock



Time for a story.
I like stories.
Half past 11

Noon time.
Time to eat.
12 o'clock

and 54 are a single lesson unit. The situation represents a day in the life of a second grade child. The class discusses the child's activities and then writes the time.

The bell rings.
School begins again.

_____ o'clock

TV time.
I like TV time.

_____ o'clock

Time to read again.
I like to read.

Half past _____

Father comes home.
I run to meet Father.

Half past _____

Time to draw.
I like to draw.

Half past _____

Dinner time.
I eat a good dinner.

_____ o'clock

School is over.
Off for home.

Half past _____

I play with my games.
I like my games.

Half past _____

Home again.
Out to play.

_____ o'clock

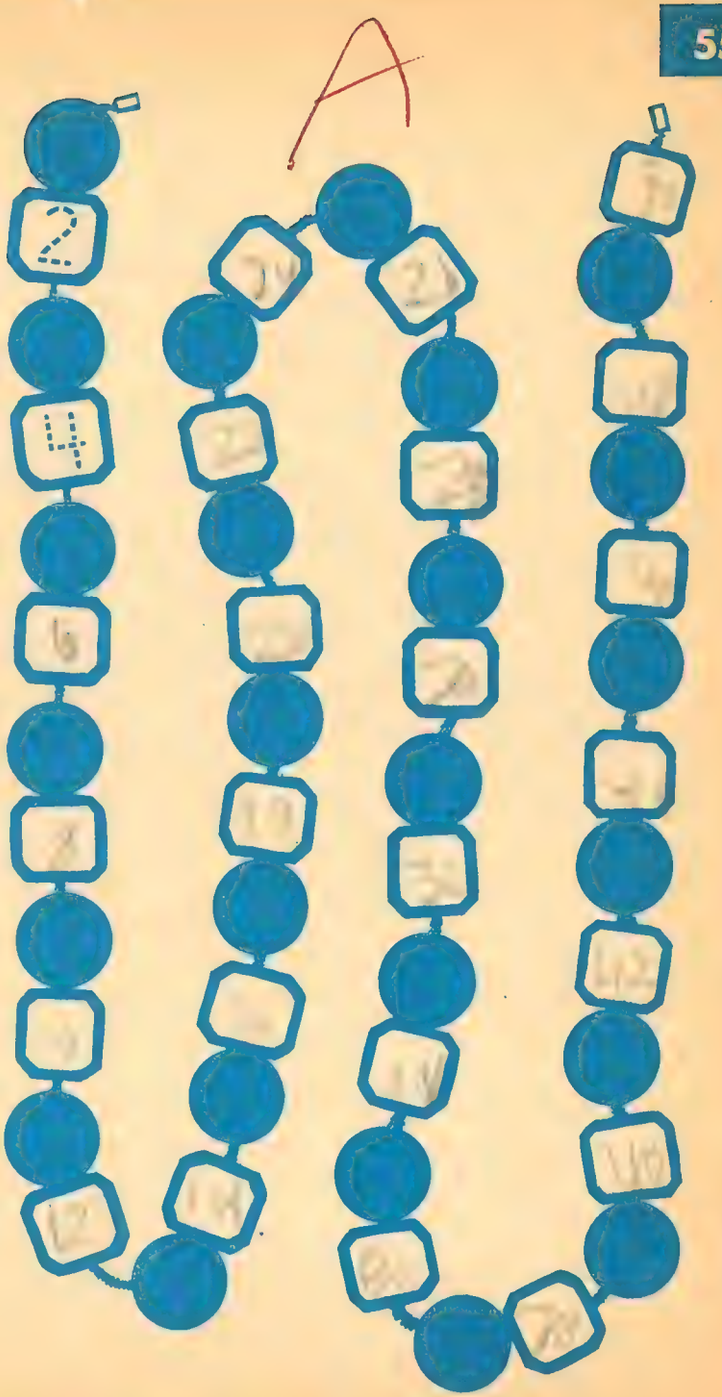
Good night.
Off to bed.

_____ o'clock

Continuation of the lesson introduced on page 53—hour and half hour. In class the children discuss the child's activities and name the time of day. At their seats they fill in all the missing numbers.

Write the numbers that belong in the empty boxes. Then say them.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50



Count Jane's beads one at a time.

How many beads in all? 50

Count Jane's beads two at a time.

On each ▢ bead write the number you say.

numbers in the chart at the left. They read the numbers they have written. They count Jane's round and square beads counting two at a time. They write on the square beads.

Before		After
9	10	11
	12	
	19	
	15	
	16	
	24	
	20	
	29	
	33	
	30	
	39	
	40	
	59	

Before		After
	60	
	89	
	51	
	73	
	56	
	90	
	85	
	99	
	81	
	76	
	57	
	68	
	52	

What comes between?		
9	10	11
19		21
29		31
39		41
49		51
59		61
69		71
79		81
89		91
11		13
70		72
48		50
84		86

Number sequence in numbers from 1 to 100. In the first two columns children write the number that comes before and after each number shown. In the third column they write the number that comes between the two numbers shown.

___ s by the

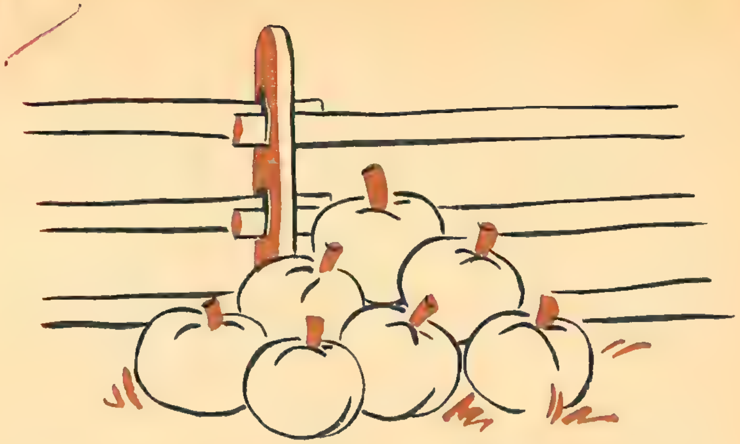
The brings ___ more .

Circle all the s.

___ s in all

$$\begin{array}{r} 6 \\ +1 \\ \hline 7 \end{array}$$

6 + 1	4 + 2	3 + 2	2 + 4	6 + 1	2 + 3
7 − 1	6 − 2	5 − 3	6 − 4	7 − 1	5 − 2



___ s by the

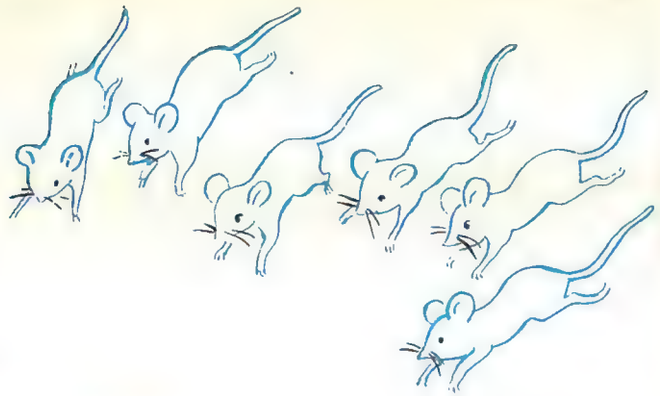
Sue takes ___ for a .

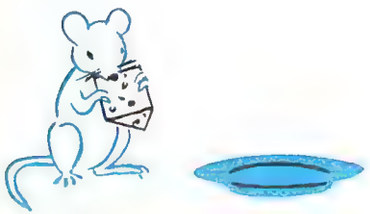
Put X on the Sue takes.

___ s are left.

$$\begin{array}{r} 7 \\ -1 \\ \hline 6 \end{array}$$

Visualizing related facts 6 + 1 = 7 and 7 − 1 = 6. Children talk about the number story in the picture at the left; dramatize the story with objects; make a disk picture of the story; then fill in the missing numbers. Follow a similar plan for 7 − 1 = 6.





___ eats the .

___ mice come running.

Circle all the mice.

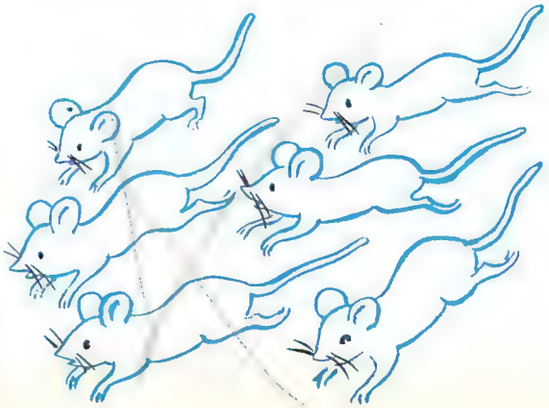
___ mice in all

$$\begin{array}{r} 1 \\ +\,6 \\ \hline 7 \end{array}$$

$$\begin{array}{rrrrrr} 1 & 1 & 3 & 2 & 1 & 5 \\ +\,6 & +\,5 & +\,3 & +\,2 & +\,6 & +\,1 \\ \hline & & & & & \end{array}$$

$$\begin{array}{rrrrrr} 7 & 6 & 4 & 6 & 6 & 7 \\ -\,6 & -\,5 & -\,2 & -\,3 & -\,1 & -\,6 \\ \hline & & & & & \end{array}$$

___ mice in all



___ mice run away.

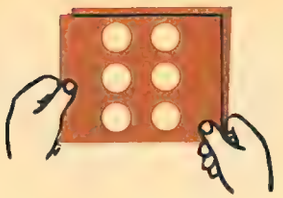
Put X on the mice that go.

___  is left.

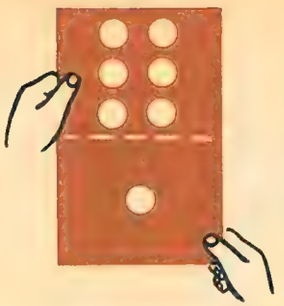
$$\begin{array}{r} 7 \\ -\,6 \\ \hline 1 \end{array}$$

Visualizing related facts 1 + 6 = 7 and 7 − 6 = 1. Children talk about the number story in the picture at the left; dramatize the story with objects; make a disk picture of the story; then fill in the missing numbers. Follow a similar plan for 7 − 6 = 1.

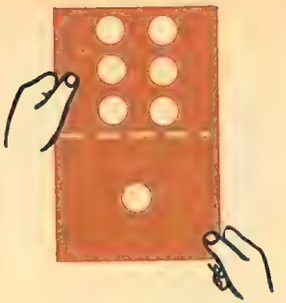
Visualizing a group of four related facts. Children study the first row of folding perception cards. Using a folded paper as shown, they discover two facts. By turning the folded paper around as shown, they discover two more facts. They then fill in the missing numbers.



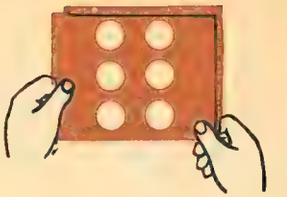
You see 6.



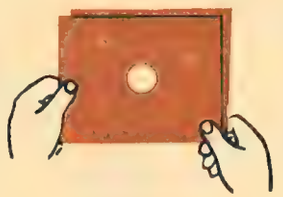
Open and see $\begin{array}{r} 6 \\ +1 \\ \hline 7 \end{array}$.



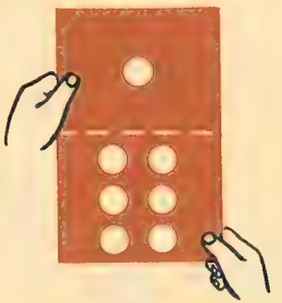
You see 7 in all.



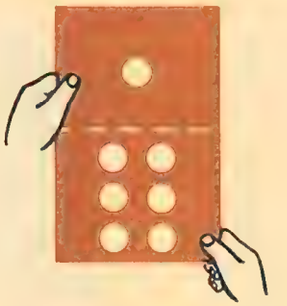
Close to show $\begin{array}{r} 7 \\ -1 \\ \hline 6 \end{array}$.



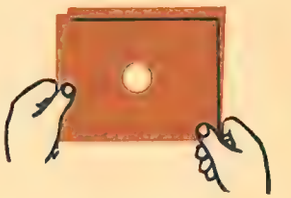
You see 1.



Open and see $\begin{array}{r} 1 \\ +6 \\ \hline 7 \end{array}$.



You see 7 in all.



Close to show $\begin{array}{r} 7 \\ -6 \\ \hline 1 \end{array}$.

$$\begin{array}{rrrrrr} 6 & 1 & 2 & 6 & 4 & 1 \\ +1 & +6 & +4 & +1 & +2 & +6 \\ \hline 7 & 7 & 6 & 7 & 6 & 7 \end{array} \qquad \begin{array}{rrrrrr} 7 & 7 & 6 & 7 & 6 & 7 \\ -1 & -6 & -4 & -1 & -2 & -6 \\ \hline 6 & 1 & 2 & 6 & 4 & 1 \end{array}$$

$$\begin{array}{rrrrrr} 2 & 6 & 1 & 3 & 1 & 5 \\ +3 & +1 & +5 & +2 & +6 & +1 \\ \hline 5 & 7 & 6 & 5 & 7 & 6 \end{array} \qquad \begin{array}{rrrrrr} 5 & 7 & 6 & 5 & 7 & 6 \\ -3 & -1 & -5 & -2 & -6 & -1 \\ \hline 2 & 6 & 1 & 3 & 1 & 5 \end{array}$$

___ girls are together.

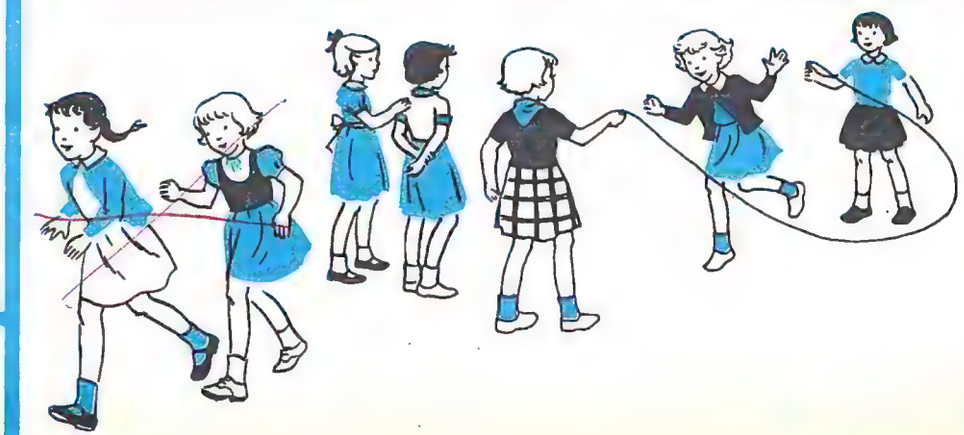
___ girls come.

Circle all the girls.

___ girls in all

$$\begin{array}{r} 5 \\ +\ 2 \\ \hline 7 \end{array}$$

___ girls in all



___ girls go away.

Put X on the girls that go.

___ girls are left.

$$\begin{array}{r} 7 \\ -\ 2 \\ \hline 5 \end{array}$$

$$\begin{array}{rrrrrr} 5 & 1 & 4 & 5 & 1 & 3 \\ +\ 2 & +\ 3 & +\ 1 & +\ 2 & +\ 4 & +\ 1 \\ \hline & & & & & \end{array}$$

$$\begin{array}{rrrrrr} 7 & 5 & 4 & 5 & 7 & 4 \\ -\ 2 & -\ 1 & -\ 3 & -\ 4 & -\ 2 & -\ 1 \\ \hline & & & & & \end{array}$$

Visualizing related facts $5 + 2 = 7$ and $7 - 2 = 5$. Children talk about the number story in the picture at the left; dramatize the story with objects; make a disk picture of the story; then fill in the missing numbers. Follow a similar plan for $7 - 2 = 5$.

Visualizing related facts $2 + 5 = 7$ and $7 - 5 = 2$. Children talk about the number story in the picture at the left; dramatize the story with objects; make a disk picture of the story; then fill in the missing numbers. Follow a similar plan for $7 - 5 = 2$.

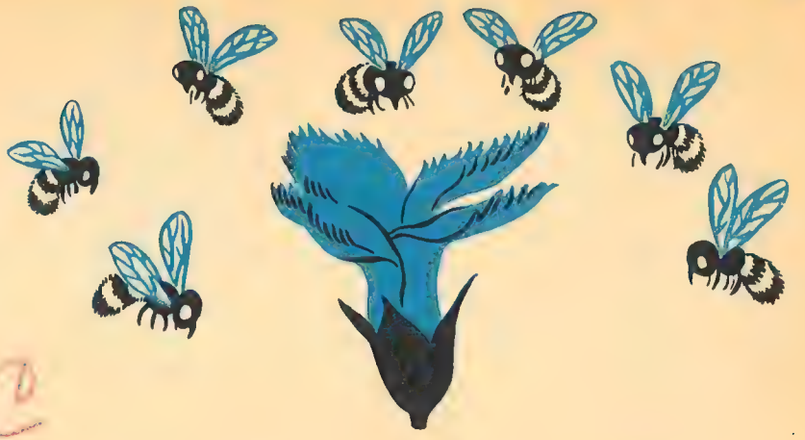
3 s on the

5 s come.

Circle all the s.

7 s in all

$$\begin{array}{r} 2 \\ +\,5 \\ \hline 7 \end{array}$$



7 s around the

2 s fly away.

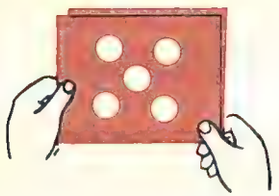
Put X on the s that go.

5 s are left.

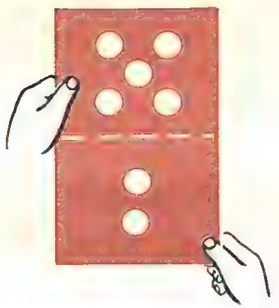
$$\begin{array}{r} 7 \\ -\,5 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 2 \\ +\,5 \\ \hline 7 \end{array} \qquad \begin{array}{r} 6 \\ +\,1 \\ \hline 7 \end{array} \qquad \begin{array}{r} 1 \\ +\,5 \\ \hline 6 \end{array} \qquad \begin{array}{r} 2 \\ +\,5 \\ \hline 7 \end{array} \qquad \begin{array}{r} 1 \\ +\,6 \\ \hline 7 \end{array} \qquad \begin{array}{r} 5 \\ +\,1 \\ \hline 6 \end{array}$$

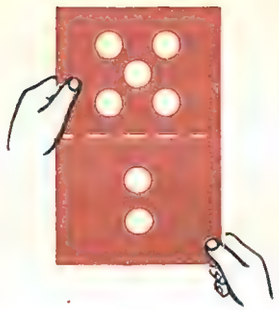
$$\begin{array}{r} 7 \\ -\,5 \\ \hline 2 \end{array} \qquad \begin{array}{r} 7 \\ -\,1 \\ \hline 6 \end{array} \qquad \begin{array}{r} 6 \\ -\,1 \\ \hline 5 \end{array} \qquad \begin{array}{r} 7 \\ -\,6 \\ \hline 1 \end{array} \qquad \begin{array}{r} 6 \\ -\,5 \\ \hline 1 \end{array} \qquad \begin{array}{r} 7 \\ -\,5 \\ \hline 2 \end{array}$$



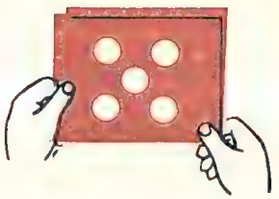
You see ___.



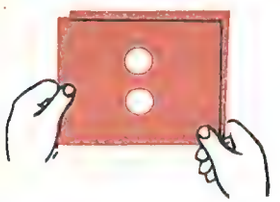
Open and see $\begin{array}{r} 5 \\ +2 \\ \hline 7 \end{array}$.



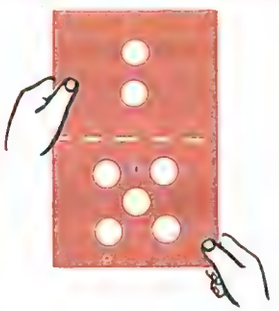
You see 7 in all.



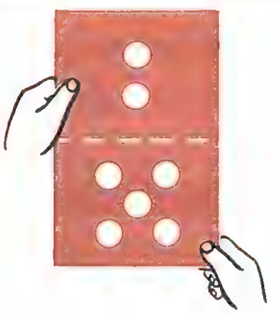
Close to show $\begin{array}{r} 7 \\ -2 \\ \hline \end{array}$.



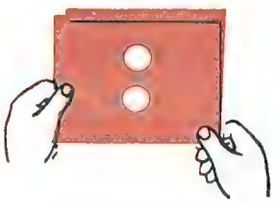
You see ___.



Open and see $\begin{array}{r} 2 \\ +5 \\ \hline \end{array}$.



You see 7 in all.

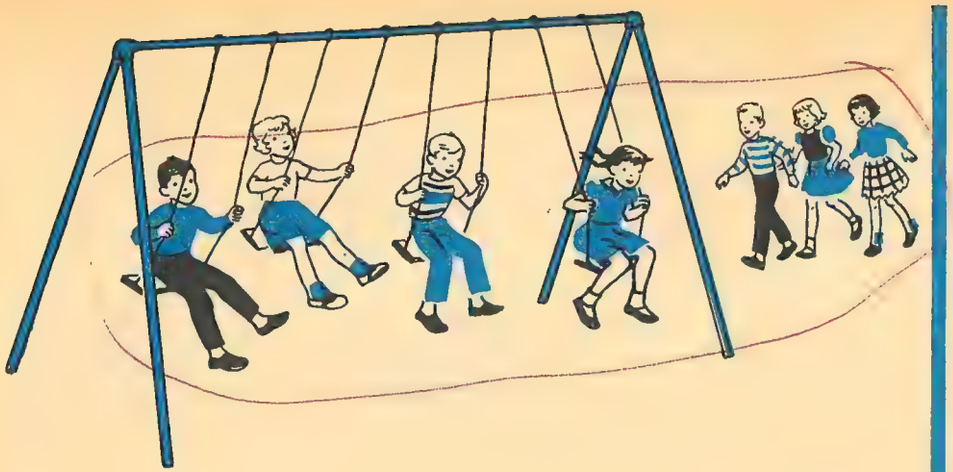


Close to show $\begin{array}{r} 7 \\ -5 \\ \hline \end{array}$.

$$\begin{array}{rrrrrr} 5 & 2 & 4 & 5 & 1 & 2 \\ +2 & +5 & +1 & +2 & +4 & +5 \\ \hline \end{array} \qquad \begin{array}{rrrrrr} 7 & 7 & 5 & 7 & 5 & 7 \\ -2 & -5 & -1 & -2 & -4 & -5 \\ \hline \end{array}$$

$$\begin{array}{rrrrrr} 3 & 5 & 2 & 6 & 2 & 1 \\ +3 & +2 & +2 & +1 & +5 & +6 \\ \hline \end{array} \qquad \begin{array}{rrrrrr} 6 & 7 & 4 & 7 & 7 & 7 \\ -3 & -2 & -2 & -1 & -5 & -6 \\ \hline \end{array}$$

Visualizing a group of four related facts. Children study the first row of folding perception cards. Using a folded paper as shown, they discover two facts. By turning the folded paper around as shown, they discover two more facts. They fill in all the missing numbers.



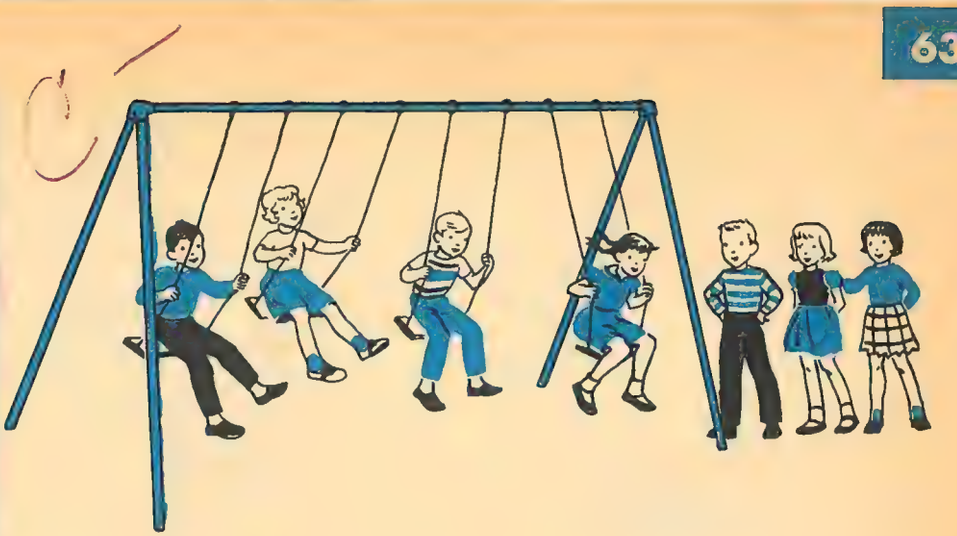
4 children on the swings

3 children come.

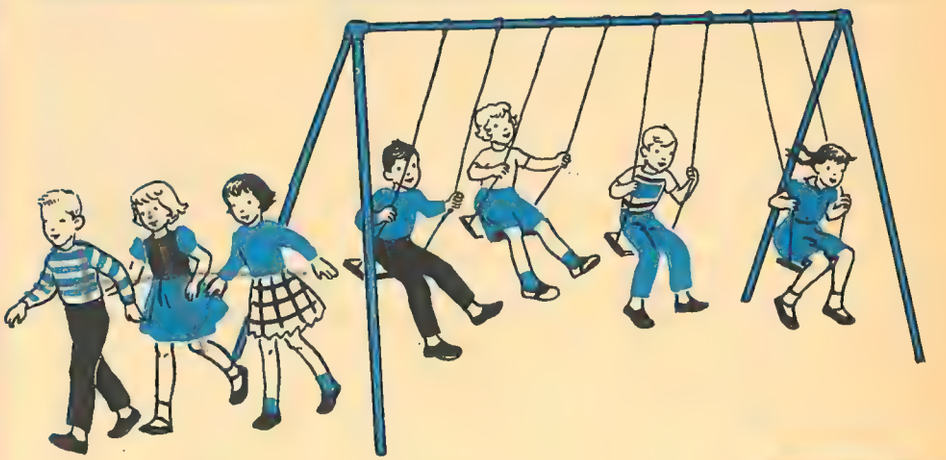
Circle all the children.

7 children in all

$$\begin{array}{r} 4 \\ +\,3 \\ \hline 7 \end{array}$$



2 children are here.



4 children go away.

Put X on the children who go.

3 children are left.

$$\begin{array}{r} 7 \\ -\,3 \\ \hline 4 \end{array}$$

$\begin{array}{r} 4 \\ +\,3 \\ \hline \end{array}$	$\begin{array}{r} 1 \\ +\,4 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ +\,3 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ +\,1 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ +\,3 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ +\,2 \\ \hline \end{array}$
$\begin{array}{r} 7 \\ -\,3 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ -\,1 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ -\,2 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ -\,3 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ -\,4 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ -\,3 \\ \hline \end{array}$

talk about the number story in the picture at the left; dramatize the story with objects; make a disk picture of the story;

$7 - 3 = 4$.

___ s in the ___

___ s come.

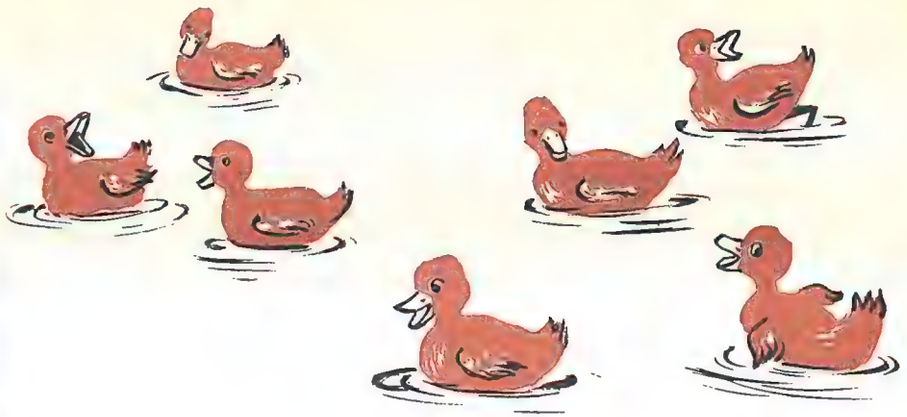
Circle all the s.

___ s in all

$$\begin{array}{r} 3 \\ +\,4 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 3 \\ +\,4 \\ \hline \end{array} \quad \begin{array}{r} 5 \\ +\,2 \\ \hline \end{array} \quad \begin{array}{r} 2 \\ +\,3 \\ \hline \end{array} \quad \begin{array}{r} 2 \\ +\,5 \\ \hline \end{array} \quad \begin{array}{r} 3 \\ +\,4 \\ \hline \end{array} \quad \begin{array}{r} 3 \\ +\,2 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ -\,4 \\ \hline \end{array} \quad \begin{array}{r} 5 \\ -\,3 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ -\,2 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ -\,4 \\ \hline \end{array} \quad \begin{array}{r} 5 \\ -\,2 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ -\,5 \\ \hline \end{array}$$



___ s in the ___

___ s go away.

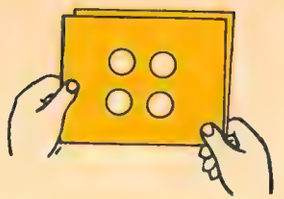
Put X on the s that go.

___ s are left in the ___.

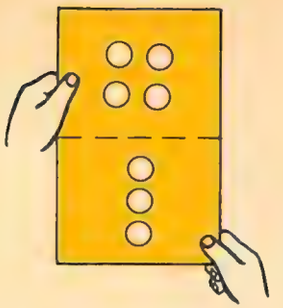
$$\begin{array}{r} 7 \\ -\,4 \\ \hline 3 \end{array}$$

Visualizing related facts $3 + 4 = 7$ and $7 - 4 = 3$. Children talk about the number story in the picture at the left; dramatize the story with objects; make a disk picture of the story; then fill in the missing numbers. Follow a similar plan for $7 - 4 = 3$.

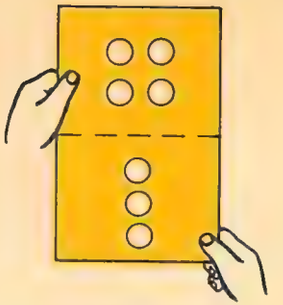
Groups of four related facts. Children study the first row of folding perception cards. Using a folded paper as shown, they discover two facts. By turning the folded paper around as shown, they discover two more facts. They fill in all the missing numbers.



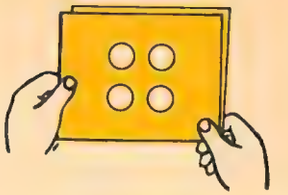
You see 4.



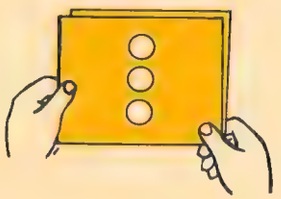
Open and see $\begin{array}{r} 4 \\ +3 \\ \hline 7 \end{array}$.



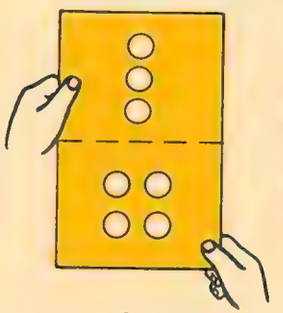
You see 7 in all.



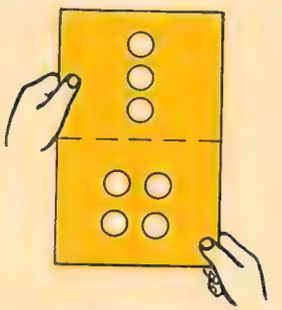
Close to show $\begin{array}{r} 7 \\ -3 \\ \hline 4 \end{array}$.



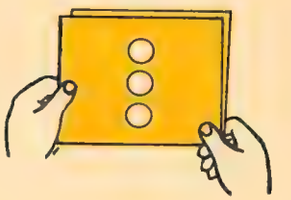
You see 3.



Open and see $\begin{array}{r} 3 \\ +4 \\ \hline 7 \end{array}$.



You see 7 in all.



Close to show $\begin{array}{r} 7 \\ -4 \\ \hline 3 \end{array}$.

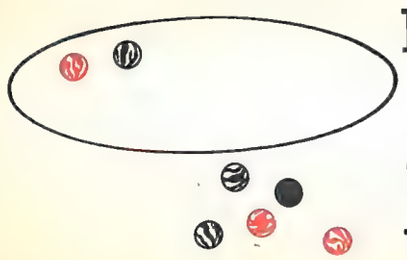
$\begin{array}{r} 4 \\ +3 \\ \hline 7 \end{array}$ $\begin{array}{r} 3 \\ +4 \\ \hline 7 \end{array}$ $\begin{array}{r} 5 \\ +1 \\ \hline 6 \end{array}$ $\begin{array}{r} 4 \\ +3 \\ \hline 7 \end{array}$ $\begin{array}{r} 1 \\ +5 \\ \hline 6 \end{array}$ $\begin{array}{r} 3 \\ +4 \\ \hline 7 \end{array}$

$\begin{array}{r} 7 \\ -3 \\ \hline 4 \end{array}$ $\begin{array}{r} 7 \\ -4 \\ \hline 3 \end{array}$ $\begin{array}{r} 6 \\ -1 \\ \hline 5 \end{array}$ $\begin{array}{r} 7 \\ -3 \\ \hline 4 \end{array}$ $\begin{array}{r} 6 \\ -5 \\ \hline 1 \end{array}$ $\begin{array}{r} 7 \\ -4 \\ \hline 3 \end{array}$

$\begin{array}{r} 5 \\ +2 \\ \hline 7 \end{array}$ $\begin{array}{r} 4 \\ +3 \\ \hline 7 \end{array}$ $\begin{array}{r} 2 \\ +4 \\ \hline 6 \end{array}$ $\begin{array}{r} 3 \\ +4 \\ \hline 7 \end{array}$ $\begin{array}{r} 2 \\ +5 \\ \hline 7 \end{array}$ $\begin{array}{r} 4 \\ +2 \\ \hline 6 \end{array}$

$\begin{array}{r} 7 \\ -2 \\ \hline 5 \end{array}$ $\begin{array}{r} 7 \\ -3 \\ \hline 4 \end{array}$ $\begin{array}{r} 6 \\ -4 \\ \hline 2 \end{array}$ $\begin{array}{r} 7 \\ -4 \\ \hline 3 \end{array}$ $\begin{array}{r} 7 \\ -5 \\ \hline 2 \end{array}$ $\begin{array}{r} 6 \\ -2 \\ \hline 4 \end{array}$

1 + 6 = 7	6 + 1 = 7	4 + 2 = 6	1 + 6 = 7	2 + 3 = 5	6 + 1 = 3	5 + 1 = 3	1 + 6 = 7	2 + 4 = 6	3 + 2 = 4	6 + 1 = 7	3 + 3 = 6
2 + 5 = 7	5 + 2 = 7	3 + 3 = 5	2 + 5 = 7	3 + 1 = 2	5 + 2 = 7	1 + 1 = 3	5 + 2 = 7	1 + 3 = 4	2 + 5 = 7	1 + 4 = 7	2 + 3 = 5
3 + 4 = 7	4 + 3 = 7	2 + 2 = 4	3 + 4 = 7	1 + 5 = 7	4 + 3 = 7	4 + 1 = 7	3 + 4 = 7	1 + 2 = 4	4 + 3 = 7	2 + 1 = 4	3 + 2 = 5



In the ⬭ ____2____ es

Out of the ⬭ ____5____ es

In all ____7____ es

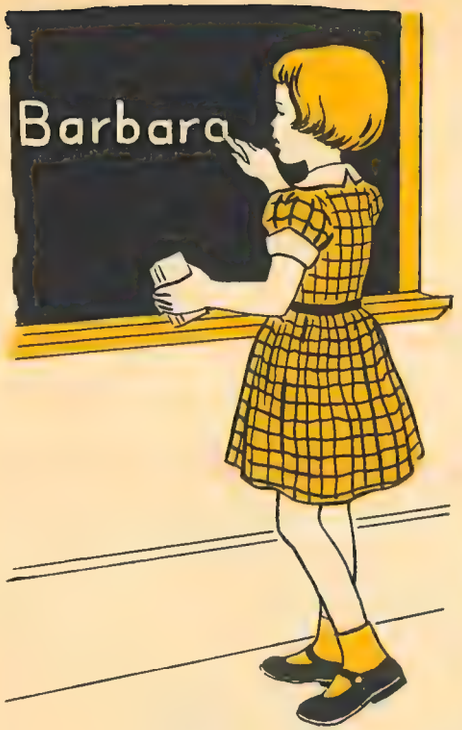
____4____ s

____3____ s

____7____ s in all

Testing addition number facts through the 7's. Children cover the clowns giving the facts and answers and refer to them only when they need to. This lesson can be used for oral responses in class before it is given as a written test.

How Many More?



What name did Barbara write? _____

How many letters are in her name? _____

What name did Jack write? _____

How many letters are in his name? _____

See how Jack covers the first 4 letters in Barbara's name.

How many more letters are in Barbara's name? $7 - 4 =$ ___

Barbara's dresses ___

Sally's dresses ___

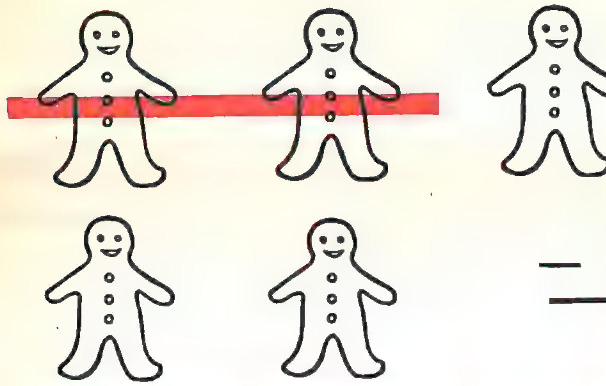
How many more dresses has Barbara? ___

Sally's jacks ___

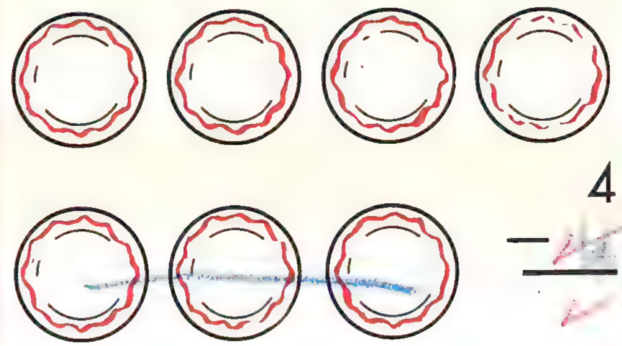
Barbara's jacks ___

How many more jacks has Sally? ___

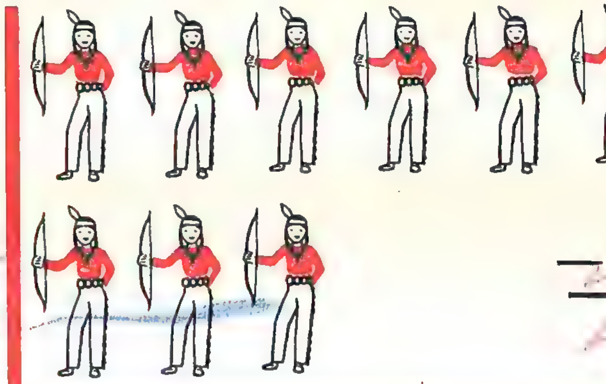
In each picture are two rows. How many more are in the top row?



3
− 2
1

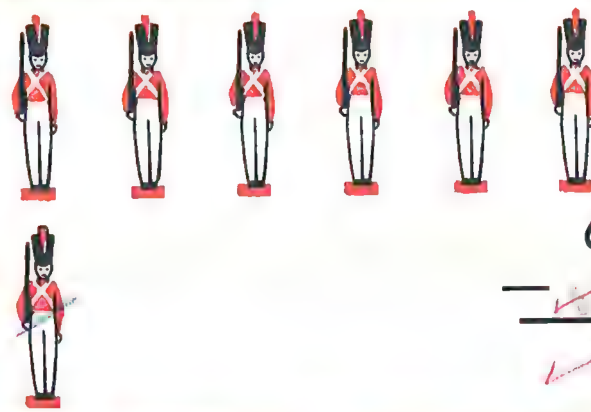


4
−

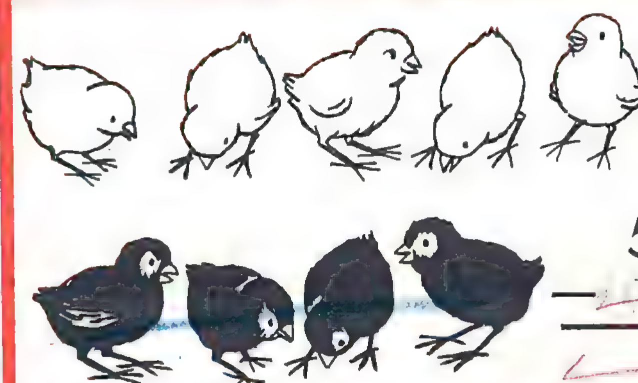


6
−

5
−

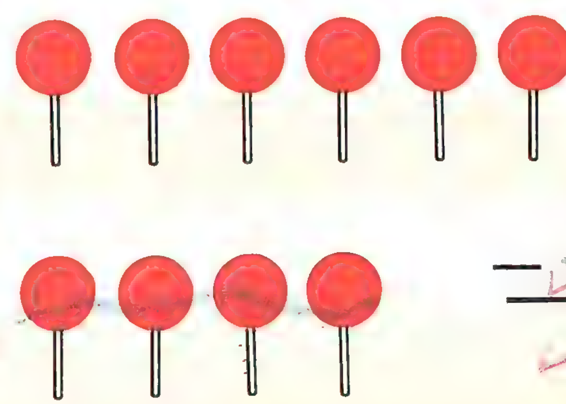


6
−



5
−

5
−



6
−

6
−

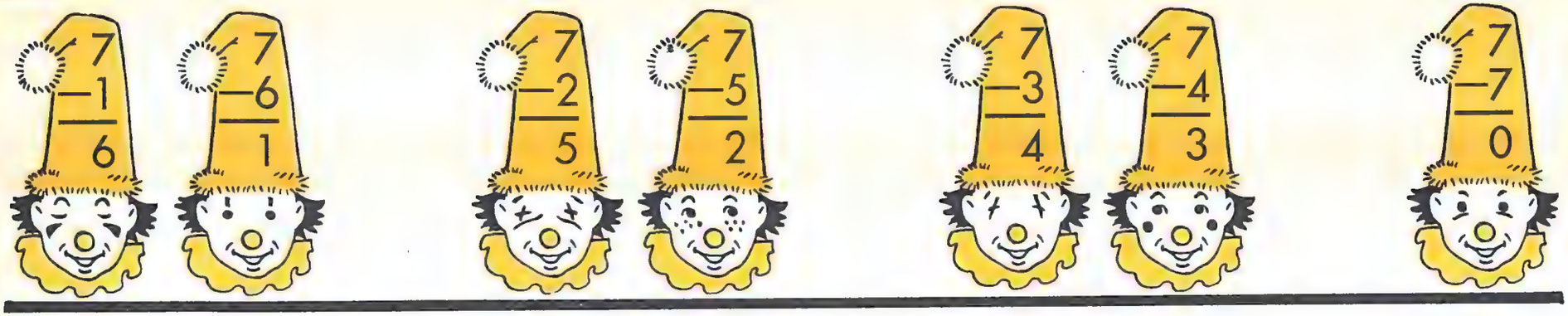
Continued practice in comparison by subtraction. Teach the children to count the number in the smaller group and draw a line through this smaller number of objects in the larger group to see **how many more.** The children write the number fact for each picture.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

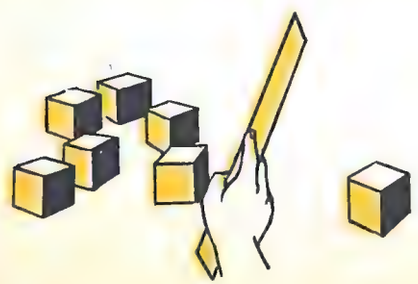
1. second week _____ _____ _____ _____ _____ _____ _____
2. third week _____ _____ _____ _____ _____ _____ _____
3. Mondays _____ _____ _____ _____ _____
4. Fridays _____ _____ _____ _____ _____
5. Saturdays _____ _____ _____ _____ _____

fill in the missing numbers.

teacher direction the children will copy the present month, writing the numbers in their correct places, and discuss their



7 − 1 = 6	7 − 6 = 1	5 − 3 =	7 − 1 = 6	4 − 1 = 3	7 − 6 = 1	3 − 2 = 1	7 − 1 =	6 − 3 = 3	5 − 5 = 0	7 − 6 = 1	6 − 1 = 5
7 − 2 =	7 − 5 =	6 − 4 = O.K.	7 − 2 =	5 − 1 = O.K.	7 − 5 =	7 − 2 =	7 − 2 =	3 − 1 =	5 − 4 = 1	7 − 5 = O.K.	6 − 6 =
7 − 3 =	7 − 4 =	7 − 7 =	7 − 3 =	6 − 5 = O.K.	7 − 4 = O.K.	7 − 7 =	6 − 2 =	7 − 3 =	4 − 4 =	7 − 4 =	5 − 2 =



_____ ▢s in all

_____ ▢s I take.

_____ ▢is left.

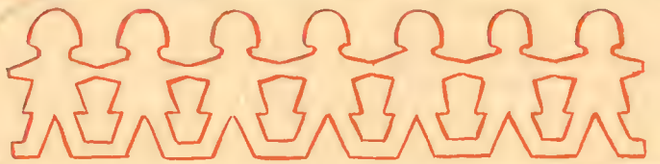
_____ balls in all

_____ balls I take.

_____ balls are left.

Testing subtraction number facts through the 7's. Children cover the clowns giving the facts and answers and refer to them only when they need to. This lesson can be used for oral responses in class before it is given as a written test.

Visualizing related facts $7 + 1 = 8$ **and** $8 - 1 = 7$. Children talk about the number story in the picture at the left; dramatize the story with objects; make a disk picture of the story; then fill in the missing numbers. Follow a similar plan for $8 - 1 = 7$.



Ann had 7 paper s.

Ann made 1 more.

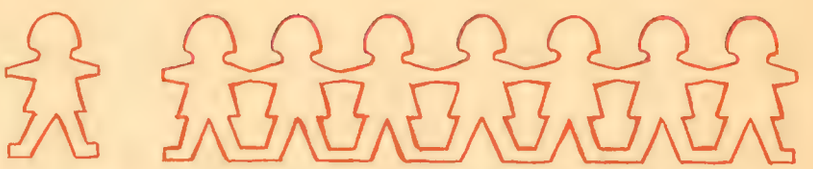
Circle all the paper s.

Ann has 8 s in all.

$$\begin{array}{r} 7 \\ +\,1 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 7 \\ +\,1 \\ \hline \end{array} \quad \begin{array}{r} 4 \\ +\,2 \\ \hline \end{array} \quad \begin{array}{r} 2 \\ +\,5 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ +\,1 \\ \hline \end{array} \quad \begin{array}{r} 2 \\ +\,4 \\ \hline \end{array} \quad \begin{array}{r} 5 \\ +\,2 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ -\,1 \\ \hline \end{array} \quad \begin{array}{r} 6 \\ -\,2 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ -\,2 \\ \hline \end{array} \quad \begin{array}{r} 8 \\ -\,1 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ -\,5 \\ \hline \end{array} \quad \begin{array}{r} 6 \\ -\,4 \\ \hline \end{array}$$



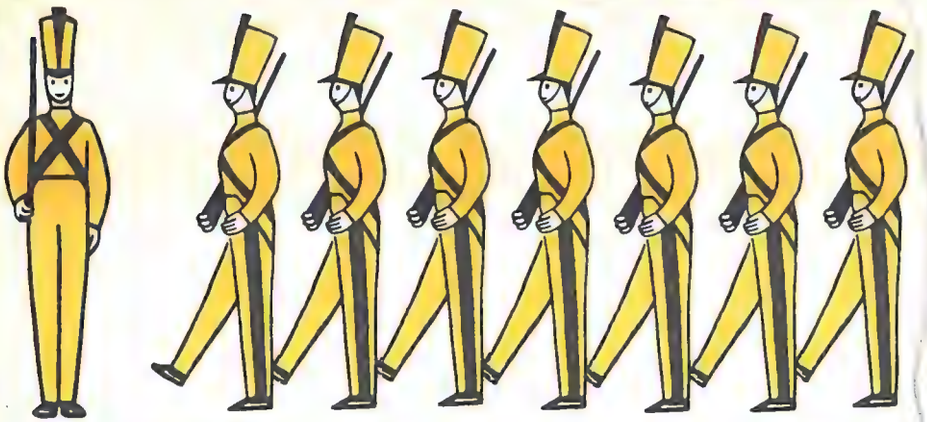
Ann has 8 paper s.

Ann takes away 1 .

Put X on the Ann takes.

7 s are left.

$$\begin{array}{r} 8 \\ -\,1 \\ \hline 7 \end{array}$$



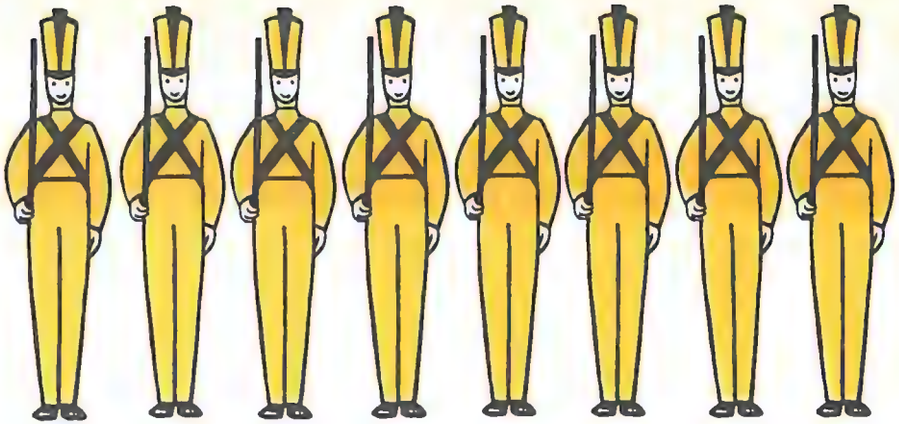
___ stands alone.

___ s come.

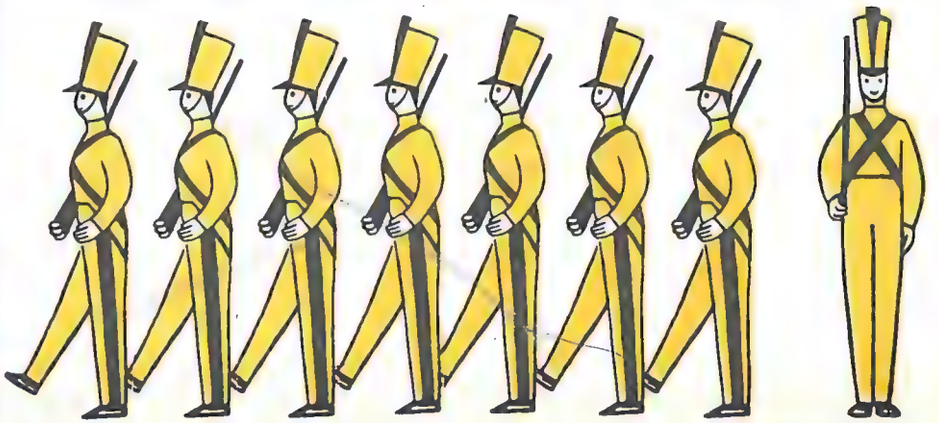
Circle all the s.

___ s in all

1
+7
8



___ s in all



___ s march away.

Put X on the s that go.

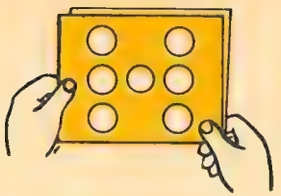
___ is left.

8
−7
1

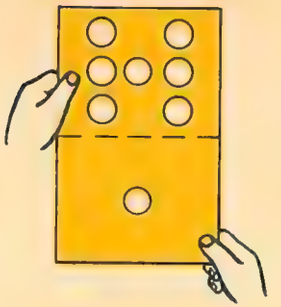
1	5	3	1	4	1
+7	+1	+4	+5	+3	+7
8	7	6	8	6	7
−7	−4	−1	−7	−5	−3

Visualizing related facts $1 + 7 = 8$ **and** $8 - 7 = 1$. Children talk about the number story in the picture at the left; dramatize the story with objects; make a disk picture of the story; then fill in the missing numbers. Follow a similar plan for $8 - 7 = 1$.

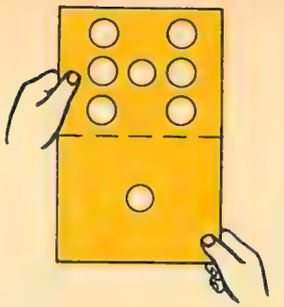
Grouping a group of four related facts. Children study the first row of folding perception cards. Using a folded paper as shown, they discover two facts. By turning the folded paper around as shown, they discover two more facts. They fill in all the missing numbers.



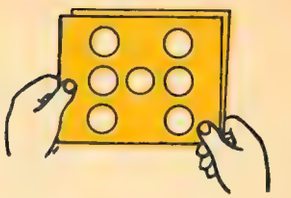
You see 7.



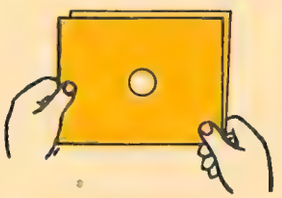
Open and see $\begin{array}{r} 7 \\ +1 \\ \hline 8 \end{array}$.



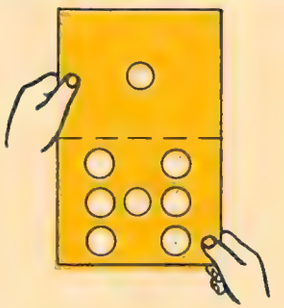
You see 8 in all.



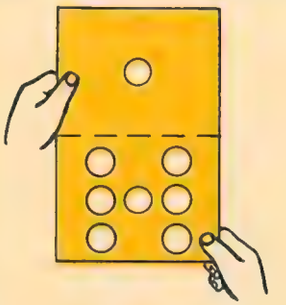
Close to show $\begin{array}{r} 8 \\ -1 \\ \hline \end{array}$.



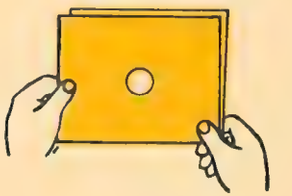
You see 1.



Open and see $\begin{array}{r} 1 \\ +7 \\ \hline 8 \end{array}$.



You see 8 in all.



Close to show $\begin{array}{r} 8 \\ -7 \\ \hline \end{array}$.

$\begin{array}{r} 7 \\ +1 \\ \hline 8 \end{array}$	$\begin{array}{r} 1 \\ +7 \\ \hline 8 \end{array}$	$\begin{array}{r} 4 \\ +3 \\ \hline 7 \end{array}$	$\begin{array}{r} 7 \\ +1 \\ \hline 8 \end{array}$	$\begin{array}{r} 3 \\ +4 \\ \hline 7 \end{array}$	$\begin{array}{r} 1 \\ +7 \\ \hline 8 \end{array}$	$\begin{array}{r} 8 \\ -1 \\ \hline 7 \end{array}$	$\begin{array}{r} 8 \\ -7 \\ \hline 1 \end{array}$	$\begin{array}{r} 7 \\ -3 \\ \hline 4 \end{array}$	$\begin{array}{r} 8 \\ -1 \\ \hline 7 \end{array}$	$\begin{array}{r} 7 \\ -4 \\ \hline 3 \end{array}$	$\begin{array}{r} 8 \\ -7 \\ \hline 1 \end{array}$
$\begin{array}{r} 5 \\ +2 \\ \hline 7 \end{array}$	$\begin{array}{r} 7 \\ +1 \\ \hline 8 \end{array}$	$\begin{array}{r} 1 \\ +6 \\ \hline 7 \end{array}$	$\begin{array}{r} 2 \\ +5 \\ \hline 7 \end{array}$	$\begin{array}{r} 1 \\ +7 \\ \hline 8 \end{array}$	$\begin{array}{r} 6 \\ +1 \\ \hline 7 \end{array}$	$\begin{array}{r} 7 \\ -2 \\ \hline 5 \end{array}$	$\begin{array}{r} 8 \\ -1 \\ \hline 7 \end{array}$	$\begin{array}{r} 7 \\ -6 \\ \hline 1 \end{array}$	$\begin{array}{r} 7 \\ -5 \\ \hline 2 \end{array}$	$\begin{array}{r} 8 \\ -7 \\ \hline 1 \end{array}$	$\begin{array}{r} 7 \\ -1 \\ \hline 6 \end{array}$

May						
S	M	T	W	Th	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

The Days of the Week

1. Days in 1 week _____ in 2 weeks _____
2. Days in 3 weeks _____ in 4 weeks _____
3. Days in May _____

4. What day is today? _____
5. What day will tomorrow be? _____
6. What day was yesterday? _____
7. One week has _____ school days.
8. Draw a line under each school day.
9. Write the names of the school days.

_____ _____ _____

_____ _____

10. Write the days you do not go to school.

_____ _____

Sunday
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday

The days of the week and the terms: today, tomorrow, yesterday. See the Teachers Edition for suggestions for the class period. At their seats the children write the answers to the questions.

6 s are eating.

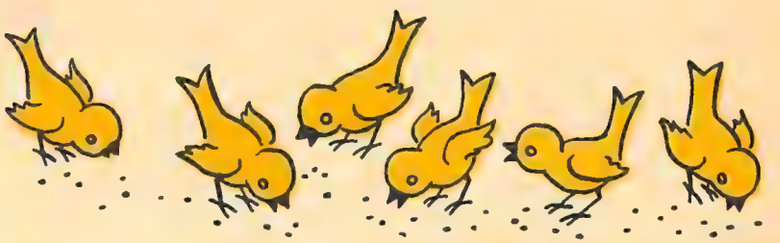
2 s come.

Circle all the s.

8 s in all

$$\begin{array}{r} 6 \\ +\ 2 \\ \hline 8 \end{array}$$

8 s in all



2 s fly away.

Put X on the s that go.

6 s are left.

$$\begin{array}{r} 8 \\ -\ 2 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 6 \\ +\ 2 \\ \hline 8 \end{array} \qquad \begin{array}{r} 2 \\ +\ 4 \\ \hline 6 \end{array} \qquad \begin{array}{r} 4 \\ +\ 1 \\ \hline 5 \end{array} \qquad \begin{array}{r} 6 \\ +\ 2 \\ \hline 8 \end{array} \qquad \begin{array}{r} 1 \\ +\ 4 \\ \hline 5 \end{array} \qquad \begin{array}{r} 4 \\ +\ 2 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 8 \\ -\ 2 \\ \hline 6 \end{array} \qquad \begin{array}{r} 6 \\ -\ 4 \\ \hline 2 \end{array} \qquad \begin{array}{r} 5 \\ -\ 1 \\ \hline 4 \end{array} \qquad \begin{array}{r} 8 \\ -\ 2 \\ \hline 6 \end{array} \qquad \begin{array}{r} 6 \\ -\ 2 \\ \hline 4 \end{array} \qquad \begin{array}{r} 5 \\ -\ 4 \\ \hline 1 \end{array}$$

talk about the number story in the picture at the left; dramatize the story with objects; make a disk picture of the story; then fill in the missing numbers. Follow a similar plan for $8 - 2 = 6$.

__2__ candles on the cake

__6__ candles on the table

Circle all the candles.

__8__ candles in all

$$\begin{array}{r} 2 \\ +\,6 \\ \hline 8 \end{array}$$

Mother lit ___ candles on the cake.

Bob blows out __6__ candles.

Put X on the candles he blows out.

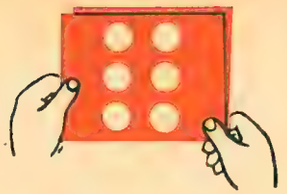
__2__ candles are left to blow out.

$$\begin{array}{r} 8 \\ -\,6 \\ \hline 2 \end{array}$$

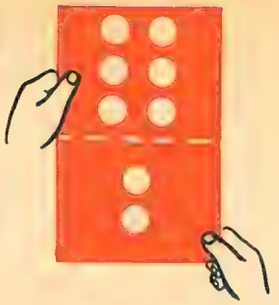
$$\begin{array}{rrrrrr} 2 & 2 & 3 & 3 & 2 & 4 \\ +\,6 & +\,3 & +\,4 & +\,2 & +\,6 & +\,3 \\ \hline 8 & 5 & 7 & 5 & 8 & 7 \end{array}$$

$$\begin{array}{rrrrrr} 8 & 7 & 5 & 7 & 8 & 5 \\ -\,6 & -\,4 & -\,3 & -\,3 & -\,6 & -\,2 \\ \hline 2 & 3 & 2 & 4 & 2 & 3 \end{array}$$

Visualizing related facts $2 + 6 = 8$ and $8 - 6 = 2$. Children talk about the number story in the picture at the left; dramatize the story with objects; make a disk picture of the story; then fill in the missing numbers. Follow a similar plan for $8 - 6 = 2$.

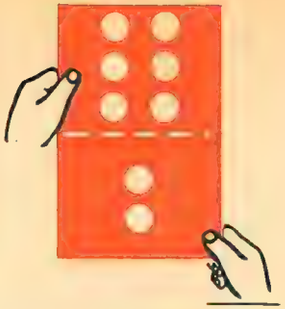


You see 6.

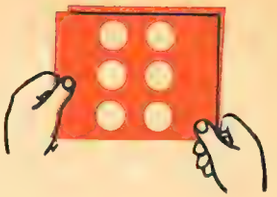


Open and see $\underset{+2}{6}$.

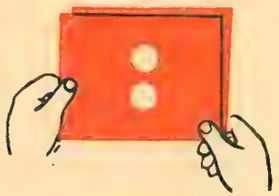
8



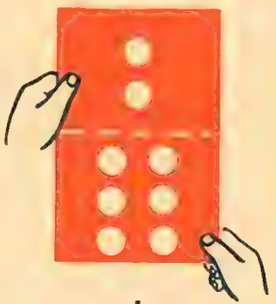
You see 8 in all.



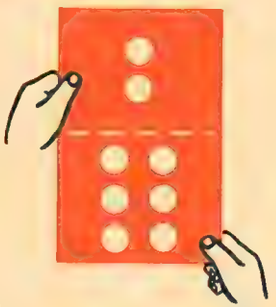
Close to show $\underset{-2}{8}$.



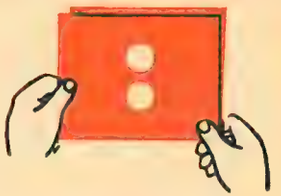
You see 2.



Open and see $\underset{+6}{2}$.



You see 8 in all.



Close to show $\underset{-6}{8}$.

$\underset{+2}{6}$ $\underset{+6}{2}$ $\underset{+3}{4}$ $\underset{+2}{6}$ $\underset{+4}{3}$ $\underset{+6}{2}$

$\underset{+2}{5}$ $\underset{+1}{7}$ $\underset{+6}{2}$ $\underset{+5}{2}$ $\underset{+7}{1}$ $\underset{+2}{6}$

$\underset{-2}{8}$ $\underset{-6}{8}$ $\underset{-3}{7}$ $\underset{-2}{8}$ $\underset{-4}{7}$ $\underset{-6}{8}$

$\underset{-2}{7}$ $\underset{-1}{8}$ $\underset{-6}{8}$ $\underset{-5}{7}$ $\underset{-7}{8}$ $\underset{-2}{8}$

Grouping a group of four related facts. Children study the first row of folding perception cards. Using a folded paper as shown, they discover two facts. By turning the folded paper around as shown, they discover two more facts. They then fill in all the missing numbers.

8 flowers were in Jane's garden.
How many flowers did Jane pick? ___
How many flowers are left? ___

8 flowers
− ___ flowers
___ flowers

I saw ___ birds on the ground.
Another bird came down to eat seeds.
Then how many birds were there in all? ___

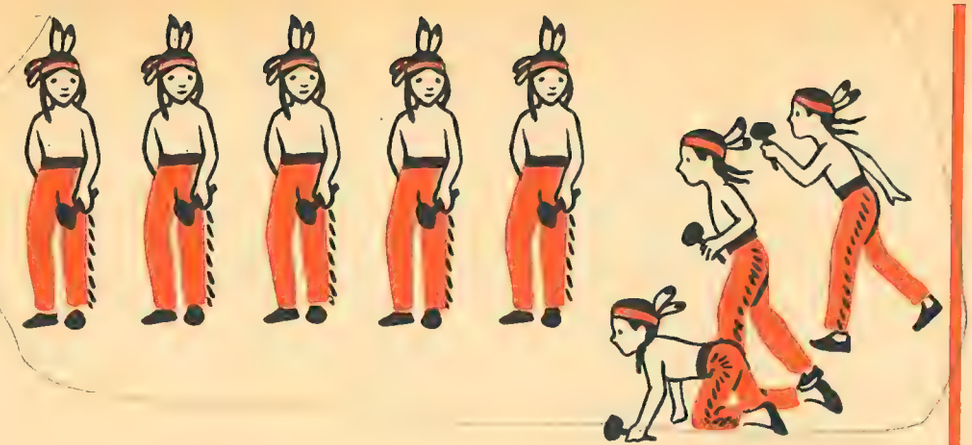
5 birds
+ ___ bird
___ birds

6 pictures were on the table.
How many pictures did Sally take? ___
How many pictures are left? ___

6 pictures
− ___ pictures
___ pictures

7	5	2	1	2	6	8	7	8	8	7	8
+1	+2	+6	+7	+5	+2	−1	−2	−6	−7	−5	−2

Visualizing story problems. Children use the pictures to get the numbers that are missing in the problems. They supply the missing numbers and work the problem in the box at the right of each problem.



5 s in a row

3 more s come.

Circle all the s.

8 s in all

$$\begin{array}{r} 5 \\ +3 \\ \hline 8 \end{array}$$

8 s in all

3 s go away.

Put X on the s who go.

5 s are left.

$$\begin{array}{r} 8 \\ -3 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 5 \\ +3 \\ \hline 8 \end{array} \quad \begin{array}{r} 1 \\ +6 \\ \hline 7 \end{array} \quad \begin{array}{r} 6 \\ +2 \\ \hline 8 \end{array} \quad \begin{array}{r} 5 \\ +3 \\ \hline 8 \end{array} \quad \begin{array}{r} 6 \\ +1 \\ \hline 7 \end{array} \quad \begin{array}{r} 2 \\ +6 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 8 \\ -3 \\ \hline 5 \end{array} \quad \begin{array}{r} 8 \\ -2 \\ \hline 6 \end{array} \quad \begin{array}{r} 7 \\ -6 \\ \hline 1 \end{array} \quad \begin{array}{r} 8 \\ -3 \\ \hline 5 \end{array} \quad \begin{array}{r} 7 \\ -1 \\ \hline 6 \end{array} \quad \begin{array}{r} 8 \\ -6 \\ \hline 2 \end{array}$$

then fill in the missing numbers. Follow a similar plan for $8 - 3 = 5$.

talk about the number story in the picture at the left; dramatize the story with objects; make a disk picture of the story;

3 children are reading.

5 children come to read.

Circle all the children.

8 children in all

$$\begin{array}{r} 3 \\ +\ 5 \\ \hline 8 \end{array}$$

$$\begin{array}{rrrrrr} 3 & 1 & 2 & 7 & 3 & 4 \\ +\ 5 & +\ 7 & +\ 4 & +\ 1 & +\ 5 & +\ 2 \\ \hline 8 & 8 & 6 & 8 & 8 & 6 \end{array}$$

$$\begin{array}{rrrrrr} 8 & 8 & 6 & 8 & 8 & 6 \\ -\ 5 & -\ 7 & -\ 4 & -\ 1 & -\ 5 & -\ 2 \\ \hline 3 & 1 & 2 & 7 & 3 & 4 \end{array}$$

8 children in all are reading.

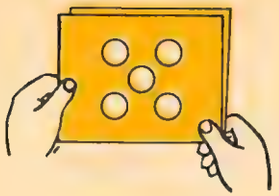
5 children go away.

Put X on the children who go.

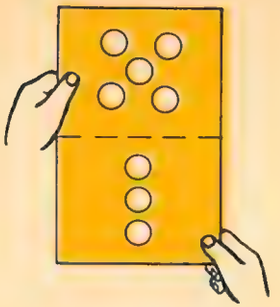
3 children are left.

$$\begin{array}{r} 8 \\ -\ 5 \\ \hline 3 \end{array}$$

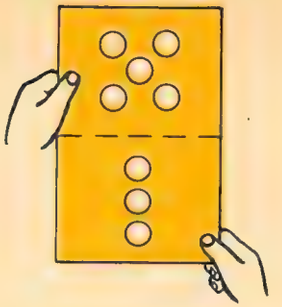
Visualizing related facts $3 + 5 = 8$ and $8 - 5 = 3$. Children talk about the number story in the picture at the left; dramatize the story with objects; make a disk picture of the story; then fill in the missing numbers. Follow a similar plan for $8 - 5 = 3$.



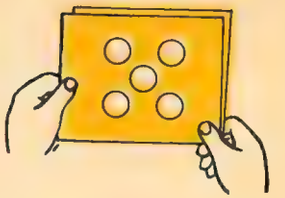
You see 5.



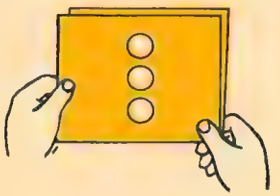
Open and see $\begin{array}{r} 5 \\ +3 \\ \hline 8 \end{array}$.



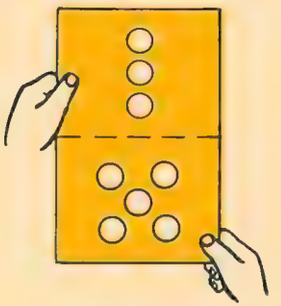
You see 8 in all.



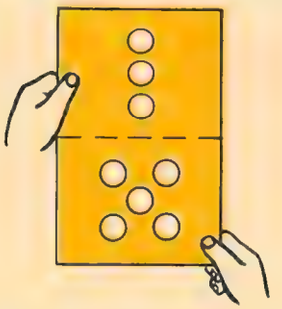
Close to show $\begin{array}{r} 8 \\ -3 \\ \hline 5 \end{array}$.



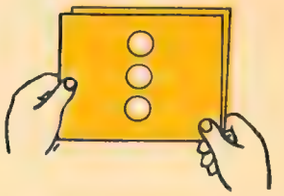
You see 3.



Open and see $\begin{array}{r} 3 \\ +5 \\ \hline 8 \end{array}$.



You see 8 in all.



Close to show $\begin{array}{r} 8 \\ -5 \\ \hline 3 \end{array}$.

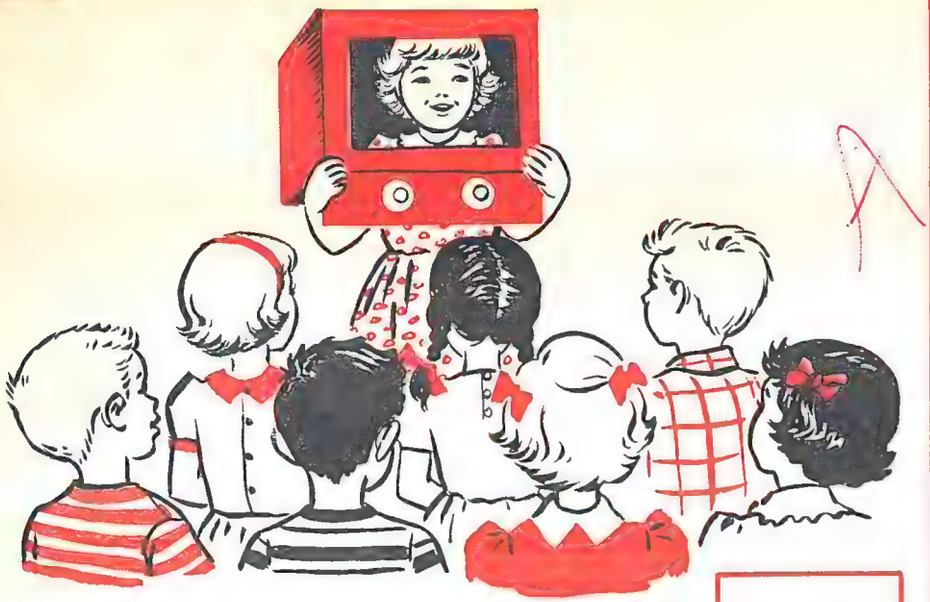
first row of folding perception cards. Using a folded paper as shown, they discover two facts. By turning the folded paper in all the missing numbers.

$\begin{array}{r} 5 \\ +3 \\ \hline 8 \end{array}$ $\begin{array}{r} 3 \\ +5 \\ \hline 8 \end{array}$ $\begin{array}{r} 6 \\ +1 \\ \hline 7 \end{array}$ $\begin{array}{r} 5 \\ +3 \\ \hline 8 \end{array}$ $\begin{array}{r} 1 \\ +6 \\ \hline 7 \end{array}$ $\begin{array}{r} 3 \\ +5 \\ \hline 8 \end{array}$

$\begin{array}{r} 8 \\ -3 \\ \hline 5 \end{array}$ $\begin{array}{r} 8 \\ -5 \\ \hline 3 \end{array}$ $\begin{array}{r} 7 \\ -1 \\ \hline 6 \end{array}$ $\begin{array}{r} 8 \\ -3 \\ \hline 5 \end{array}$ $\begin{array}{r} 7 \\ -6 \\ \hline 1 \end{array}$ $\begin{array}{r} 8 \\ -5 \\ \hline 3 \end{array}$

$\begin{array}{r} 2 \\ +5 \\ \hline 7 \end{array}$ $\begin{array}{r} 5 \\ +3 \\ \hline 8 \end{array}$ $\begin{array}{r} 3 \\ +4 \\ \hline 7 \end{array}$ $\begin{array}{r} 5 \\ +2 \\ \hline 7 \end{array}$ $\begin{array}{r} 3 \\ +5 \\ \hline 8 \end{array}$ $\begin{array}{r} 4 \\ +3 \\ \hline 7 \end{array}$

$\begin{array}{r} 7 \\ -5 \\ \hline 2 \end{array}$ $\begin{array}{r} 8 \\ -3 \\ \hline 5 \end{array}$ $\begin{array}{r} 7 \\ -4 \\ \hline 3 \end{array}$ $\begin{array}{r} 7 \\ -2 \\ \hline 5 \end{array}$ $\begin{array}{r} 8 \\ -5 \\ \hline 3 \end{array}$ $\begin{array}{r} 7 \\ -3 \\ \hline 4 \end{array}$

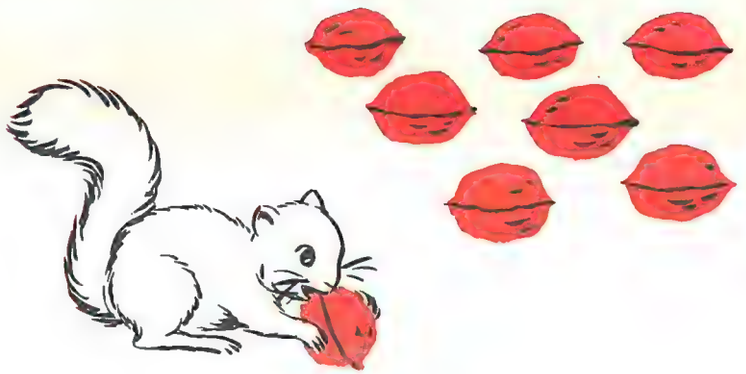


1 child gives a TV show.

1 children see the show.

2 children in all

$$\begin{array}{r} 1 \\ +\,7 \\ \hline \end{array}$$



8 s for a

The takes 1 .

7 s are left.

$$\begin{array}{r} 8 \\ -\,1 \\ \hline 7 \end{array}$$

8 apples were on the branch.

Jack took 3 apples.

How many apples are left? 5

$$\begin{array}{r} 8 \\ -\,3 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 5 \\ +\,3 \\ \hline 8 \end{array} \quad \begin{array}{r} 3 \\ +\,4 \\ \hline 7 \end{array} \quad \begin{array}{r} 6 \\ +\,2 \\ \hline 8 \end{array} \quad \begin{array}{r} 3 \\ +\,5 \\ \hline 8 \end{array} \quad \begin{array}{r} 4 \\ +\,3 \\ \hline 7 \end{array} \quad \begin{array}{r} 2 \\ +\,6 \\ \hline 8 \end{array} \quad \begin{array}{r} 8 \\ -\,3 \\ \hline 5 \end{array} \quad \begin{array}{r} 7 \\ -\,4 \\ \hline 3 \end{array} \quad \begin{array}{r} 8 \\ -\,2 \\ \hline 6 \end{array} \quad \begin{array}{r} 8 \\ -\,5 \\ \hline 3 \end{array} \quad \begin{array}{r} 7 \\ -\,3 \\ \hline 4 \end{array} \quad \begin{array}{r} 8 \\ -\,6 \\ \hline 2 \end{array}$$

Visualizing story problems. Children use the pictures to get the numbers that are missing in the problems. They supply the missing numbers and work the problem in the box at the right of each problem.

4 boys play with a ⊛ .

4 more boys come.

Circle all the boys.

5 boys in all

$$\begin{array}{r} 4 \\ +\,4 \\ \hline 8 \end{array}$$

2 boys play with a ⊛ .

4 boys go away.

Put X on the boys who go.

4 boys are left to play.

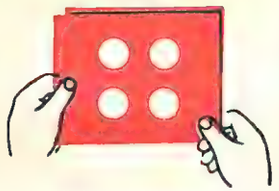
$$\begin{array}{r} 8 \\ -\,4 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 4 \\ +\,4 \\ \hline 8 \end{array} \qquad \begin{array}{r} 5 \\ +\,3 \\ \hline 8 \end{array} \qquad \begin{array}{r} 4 \\ +\,3 \\ \hline 7 \end{array} \qquad \begin{array}{r} 3 \\ +\,5 \\ \hline 8 \end{array} \qquad \begin{array}{r} 4 \\ +\,4 \\ \hline 8 \end{array} \qquad \begin{array}{r} 3 \\ +\,4 \\ \hline 7 \end{array}$$

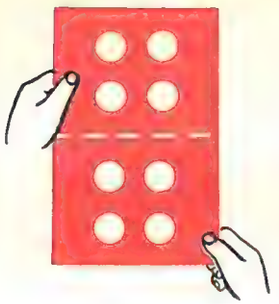
$$\begin{array}{r} 8 \\ -\,4 \\ \hline 4 \end{array} \qquad \begin{array}{r} 8 \\ -\,3 \\ \hline 5 \end{array} \qquad \begin{array}{r} 7 \\ -\,4 \\ \hline 3 \end{array} \qquad \begin{array}{r} 8 \\ -\,5 \\ \hline 3 \end{array} \qquad \begin{array}{r} 7 \\ -\,3 \\ \hline 4 \end{array} \qquad \begin{array}{r} 8 \\ -\,4 \\ \hline 4 \end{array}$$

talk about the number story in the picture at the left; dramatize the story with objects; make a disk picture of the story;

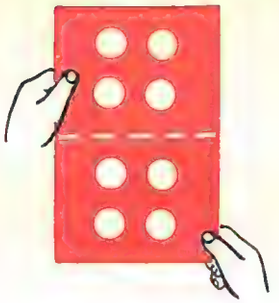
$8 - 4 = 4.$



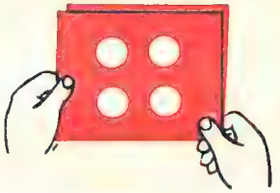
You see 4.



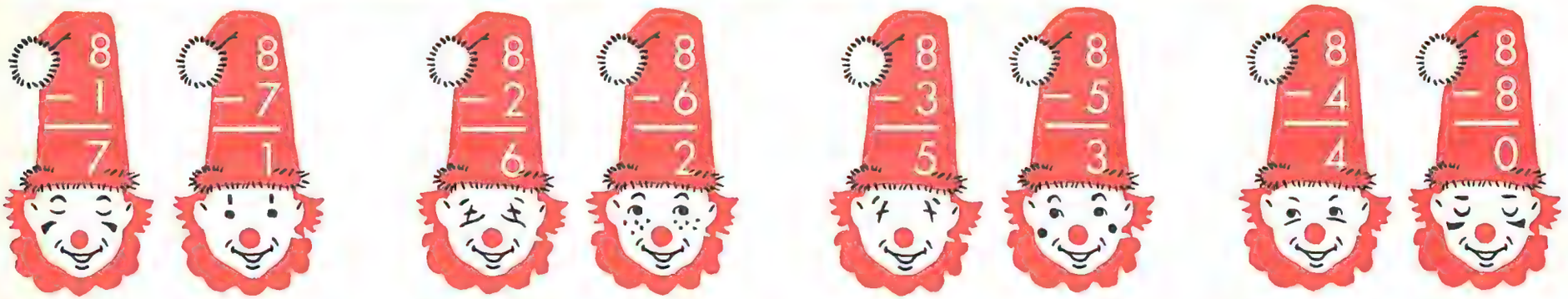
Open and see $\begin{array}{r} 4 \\ +\ 4 \\ \hline 8 \end{array}$.



You see 8 in all.



Close to show $\begin{array}{r} 8 \\ -\ 4 \\ \hline 4 \end{array}$.



8	8	6	8	7	8	8	8	7	8	7	8
−1	−7	−2	−1	−4	−7	−3	−5	−7	−3	−1	−5
7	1	4	7	3	1	5	3	7	5	6	3

8	8	7	8	7	8	8	8	7	8	7	8
−2	−6	−6	−2	−5	−6	−4	−8	−3	−4	−2	−8
6	2	1	6	2	2	4	0	4	4	5	0

Very good, Randy!

Visualizing a group of two related facts and testing subtraction number facts through the 8's. In both exercises children follow the procedure used in previous similar exercises.

4 + 2 = 6	3 + 4 =	5 + 1 = 6	7 + 1 = 8	2 + 5 = 7	6 + 2 = 8	4 + 4 = 8	5 + 3 = 8	1 + 6 = 7	4 + 1 = 5	7 + 1 = 8	2 + 6 = 8
1 + 7 = 8	5 + 2 = 7	2 + 6 = 8	3 + 5 = 8	6 + 1 = 7	1 + 4 = 5	1 + 7 = 8	6 + 2 = 8	4 + 4 = 8	5 + 3 = 8	3 + 3 = 6	3 + 5 = 8

Jane cut these.

Sally cut these.

Jane's dolls 5

Sally's dolls 3

Dolls in all 8

8 ⊙s were on a ⬭.

Bob took 2 ⊙s.

6 ⊙s are left.

The man wants to paint 6 posts.

He has painted 3 posts.

He needs to paint 3 more posts.

Ann wants to paint 7 dolls.

She has painted 3 dolls.

She needs to paint 4 more dolls.

I want to fill 8 cones in all.

I have filled 6 cones.

I need to fill 2 more cones.

We want 8 chairs for these boys.

We have 5 chairs.

We need 3 more chairs.

3 tens and 6 ones = 36

5 tens and 0 ones = 50

7 tens and 5 ones = 75

64 = 60 tens and 4 ones

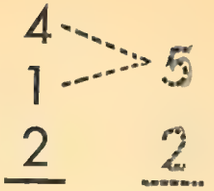
80 = 80 tens and 0 ones

93 = 90 tens and 3 ones

Visualizing story problems in subtraction in which children must see how many more are needed. Children use the pictures to supply the missing numbers in the problems. They see the solution in the picture. This lesson also reviews place value of two-place numbers.

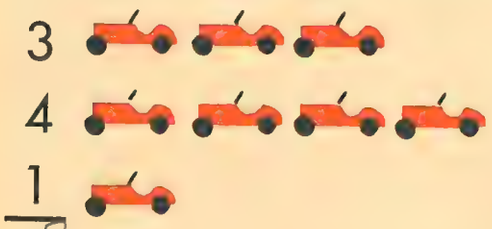
4
1
2
7

Think $\begin{array}{r} 4 \\ +\,1 \\ \hline 5 \end{array}$.



4
1
5
2 2

Then think $\begin{array}{r} 5 \\ +\,2 \\ \hline 7 \end{array}$. Write 7.



3
4
1
8

3
3
2
8

3
0
2
5

The 0 shows not any.

Think $\begin{array}{r} 3 \\ +\,2 \\ \hline 5 \end{array}$. Write 5.

2 3 1 6	1 4 3 8	5 2 1 8	2 4 2 7	7 0 1 8	3 2 1 6	2 0 6 8	2 3 3 8	6 0 2 8	2 3 2 7	1 1 4 6	3 0 5 8
1 5 2 8	4 2 1 7	1 0 5 6	6 1 1 8	5 0 3 8	1 0 6 7	4 3 1 8	1 6 1 8	5 0 2 7	1 3 2 6	3 3 1 7	2 5 1 8

meaning of 0 in a column of figures is pictured and the chil- | and 2.

Finding Scores

3
1 < 4
2 2

Each boy throws three bags.
Jack scored 3, 1, and 2.
This is how to find Jack's score.

Think $\begin{array}{r} 3 \\ +1 \\ \hline 4 \end{array}$. Then think $\begin{array}{r} 4 \\ +2 \\ \hline 6 \end{array}$.

What is Jack's score? ____

A miss is 0. The 0 shows not any points.
Circle the high score in each game.

Jack	Tom	Jack	Tom	Jack	Tom	Jack	Tom
3	2	3	1	2	3	1	3
1	1	0	3	0	0	2	0
2	2	0	0	2	2	2	3
Jack	Tom	Jack	Tom	Jack	Tom	Jack	Tom
1	2	3	0	0	1	2	2
1	0	1	2	0	1	2	2
3	3	2	3	3	1	1	2

Column addition introduced in a social situation. The meaning of 0 in scorekeeping is taught as: (1) not any points; (2) a record of a miss; (3) a record that the player has had his turn.

1 quart will fill 4 cups.

2 quarts will fill 8 cups.

B

4 cups will fill 1 quart.

4 cups will fill 2 quarts.

1 quart will fill 4 pints.

2 pints will fill 1 quart.

Circle which is more:

a pint	or	a quart
3 pints	or	a quart
2 pints	or	2 quarts
4 cups	or	a pint

quart will fill 4 measuring cups, and 4 cups will fill 1 quart. Also 1 quart will fill 2 pints, and 2 pints will fill 1 quart. If by doing.

Sally had 1 full pint .

She had 2 empty s.

She filled the 2 s from the .

Then the was empty.

Sally showed = .

Sally had 2 full s.

She had 1 empty .

She filled the from the 2 s.

Then the 2 s were empty.

Sally showed = .

Draw a line to the answer.

2 cups	1 quart
2 pints	2 quarts
8 cups	1 pint

7 days	1 foot
4 cups	1 week
12 inches	1 quart

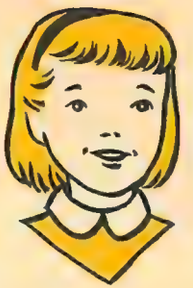
1 foot	2 cups
1 pint	12 inches
2 quarts	4 pints

Liquid measure continued. Children are shown the conversion step: 1 pint will fill 2 measuring cups, and 2 measuring cups will fill 1 pint. If possible, provide these measures so that the children can learn by doing.



Each  gets the same.

Each gets 3  s.



Each  gets the same.

Each  gets 4 s.



Each  gets the same.

Each  gets 4  s.



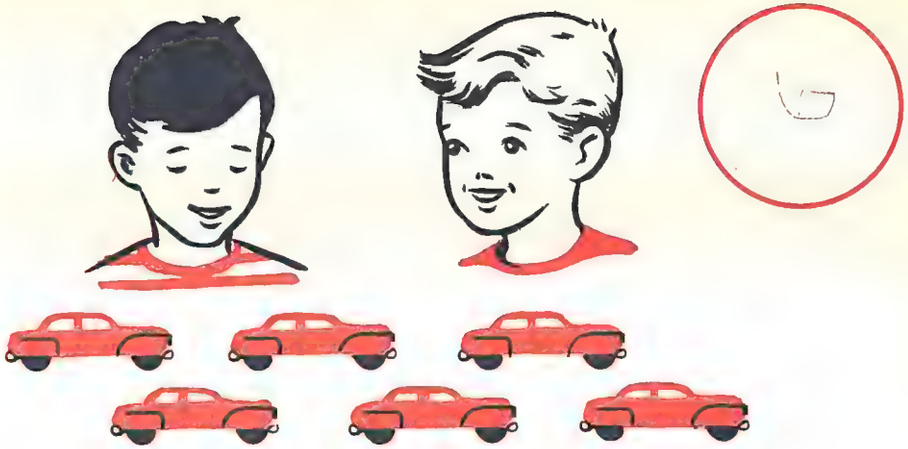
Each  gets the same.

Each  gets 3  s.

share a number of things equally. In class demonstrate how two children can share equally a number of books, pencils, pictured.

Each  gets the same.

Each  gets 2  s.



Each  gets the same.

Each  gets 3  s.

Each  gets the same.

Each  gets 1  .

Each  gets the same.

Each  gets 3  s.

Finding one-half of a group. As an independent seat activity the children write the missing numbers in the sharing exercises on pages 91 and 92.

90 tens 100 ones

Put the 10 ones together to make another ten.

Put the new ten with the other tens.

Now there are 100 tens and 0 ones.

Put the 10 tens together to make  .

Call this  1 hundred.

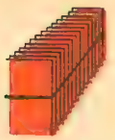
Put the hundred in hundreds' place.

1 hundred 0 tens 0 ones

1 in all

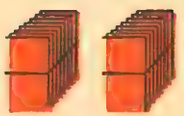
when we go from 99 to 100. The class should be supplied with 9 bundles of tens and about 30 single tickets. With these the in the first two rows on page 94.

101	102								110
111	112							119	120
121									
									140
				155					
161		163							170
191									200

hundreds	tens	ones
		

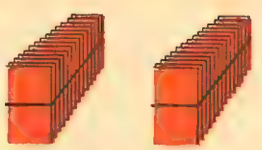
1 hundred 0 tens 2 ones

102 in all

hundreds	tens	ones
		

1 hundred 2 tens 0 ones

120 in all

hundreds	tens	ones
		

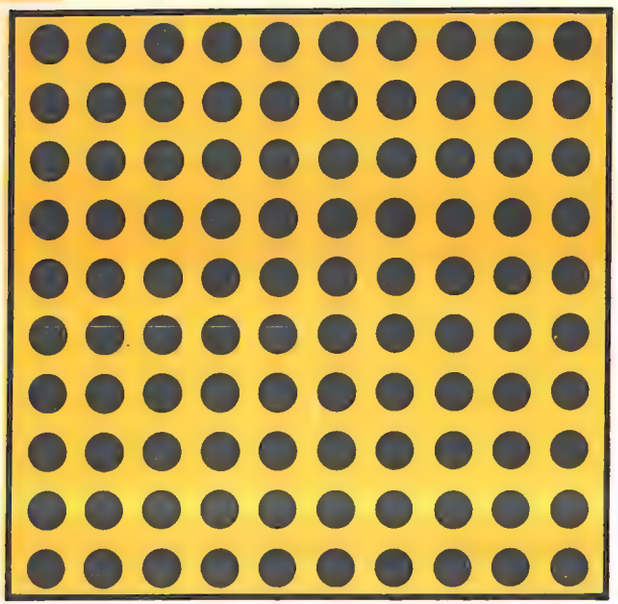
2 hundreds 0 tens 0 ones

200 in all

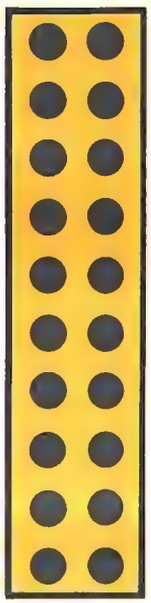
Which number is the most in each row?

103	100	130
100	140	104
200	120	102
120	142	124
153	103	135
110	120	130
150	200	105
163	136	143

Children compare the number with the picture of the number. | in bundles of hundreds, bundles of tens, or single tickets.



100 ● s
1 hundred



20 ● s
2 tens

6 ● s
6 ones

Dick counted the ● s.
First he counted 100.
Then he counted 20 more.
Then he counted 6 more.
In all he counted
126 ● s.

126 means 1 hundred 2 tens 6 ones.

140 means 1 hundred 4 tens 0 ones.

107 means 1 hundred 0 tens 7 ones.

165 means 1 hundred 6 tens 5 ones.

129 means 1 hundred 2 tens 9 ones.

200 means 2 hundreds 0 tens 0 ones.

Place value in counting as contrasted with place value in writing numbers. For example, in counting, one hundred is represented by one hundred objects. In writing numbers, one hundred is represented by 1 written in the third place from the right.

Visualizing related facts $8 + 1 = 9$ and $9 - 1 = 8$. Children talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk picture of the story; then fill in the missing numbers. Follow a similar plan for $9 - 1 = 8$.

A Way to Group 9 s

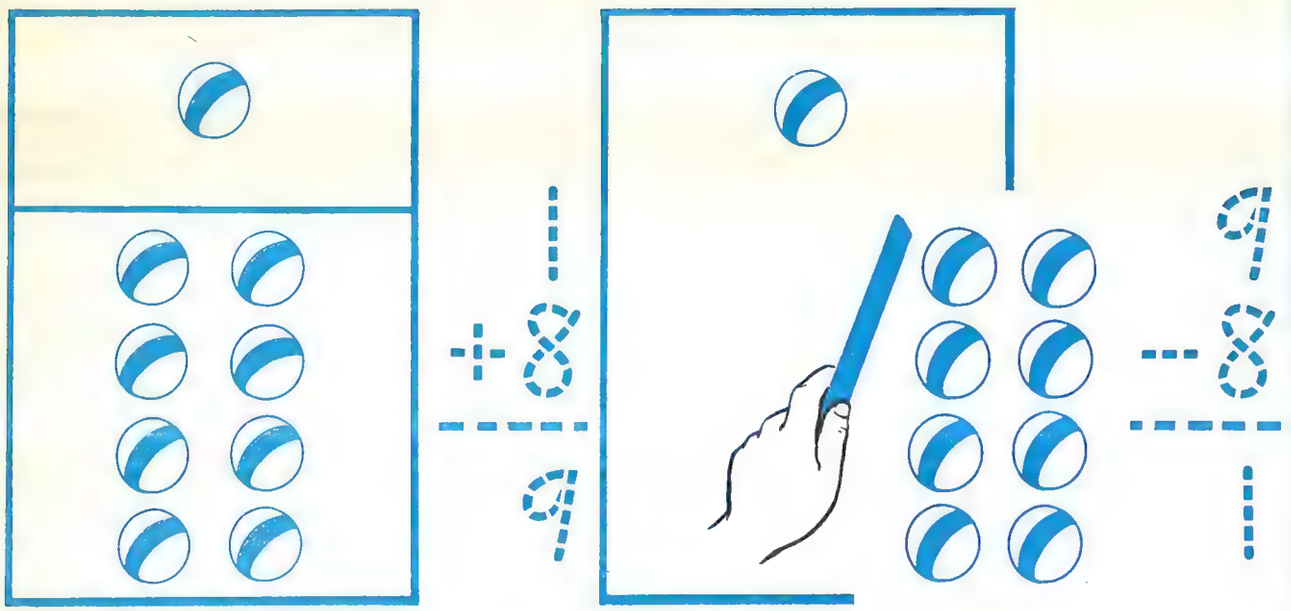
$$\begin{array}{r} 8 \\ +\ 1 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 9 \\ -\ 1 \\ \hline 8 \end{array}$$

8 bells	9 is 8 and ___.	9 bells
$+\ 1$ bell	9 is 8 and 1.	$-\ 1$ bell
9 bells	$8 + 1 = 9$	8 bells

$\begin{array}{r} 8 \\ +\ 1 \\ \hline 9 \end{array}$	$\begin{array}{r} 6 \\ +\ 2 \\ \hline 8 \end{array}$	$\begin{array}{r} 3 \\ +\ 4 \\ \hline 7 \end{array}$	$\begin{array}{r} 8 \\ +\ 1 \\ \hline 9 \end{array}$
$\begin{array}{r} 2 \\ +\ 5 \\ \hline 7 \end{array}$	$\begin{array}{r} 8 \\ +\ 1 \\ \hline 9 \end{array}$	$\begin{array}{r} 2 \\ +\ 6 \\ \hline 8 \end{array}$	$\begin{array}{r} 8 \\ +\ 1 \\ \hline 9 \end{array}$
$\begin{array}{r} 8 \\ +\ 1 \\ \hline 9 \end{array}$	$\begin{array}{r} 4 \\ +\ 3 \\ \hline 7 \end{array}$	$\begin{array}{r} 8 \\ +\ 1 \\ \hline 9 \end{array}$	$\begin{array}{r} 5 \\ +\ 2 \\ \hline 7 \end{array}$
$\begin{array}{r} 9 \\ -\ 1 \\ \hline 8 \end{array}$	$\begin{array}{r} 8 \\ -\ 2 \\ \hline 6 \end{array}$	$\begin{array}{r} 7 \\ -\ 4 \\ \hline 11 \end{array}$	$\begin{array}{r} 9 \\ -\ 1 \\ \hline 8 \end{array}$
$\begin{array}{r} 7 \\ -\ 5 \\ \hline 11 \end{array}$	$\begin{array}{r} 9 \\ -\ 1 \\ \hline 8 \end{array}$	$\begin{array}{r} 8 \\ -\ 6 \\ \hline 14 \end{array}$	$\begin{array}{r} 9 \\ -\ 1 \\ \hline 8 \end{array}$
$\begin{array}{r} 9 \\ -\ 1 \\ \hline 8 \end{array}$	$\begin{array}{r} 7 \\ -\ 3 \\ \hline 10 \end{array}$	$\begin{array}{r} 9 \\ -\ 1 \\ \hline 8 \end{array}$	$\begin{array}{r} 7 \\ -\ 2 \\ \hline 9 \end{array}$

A Way to Group 9 s

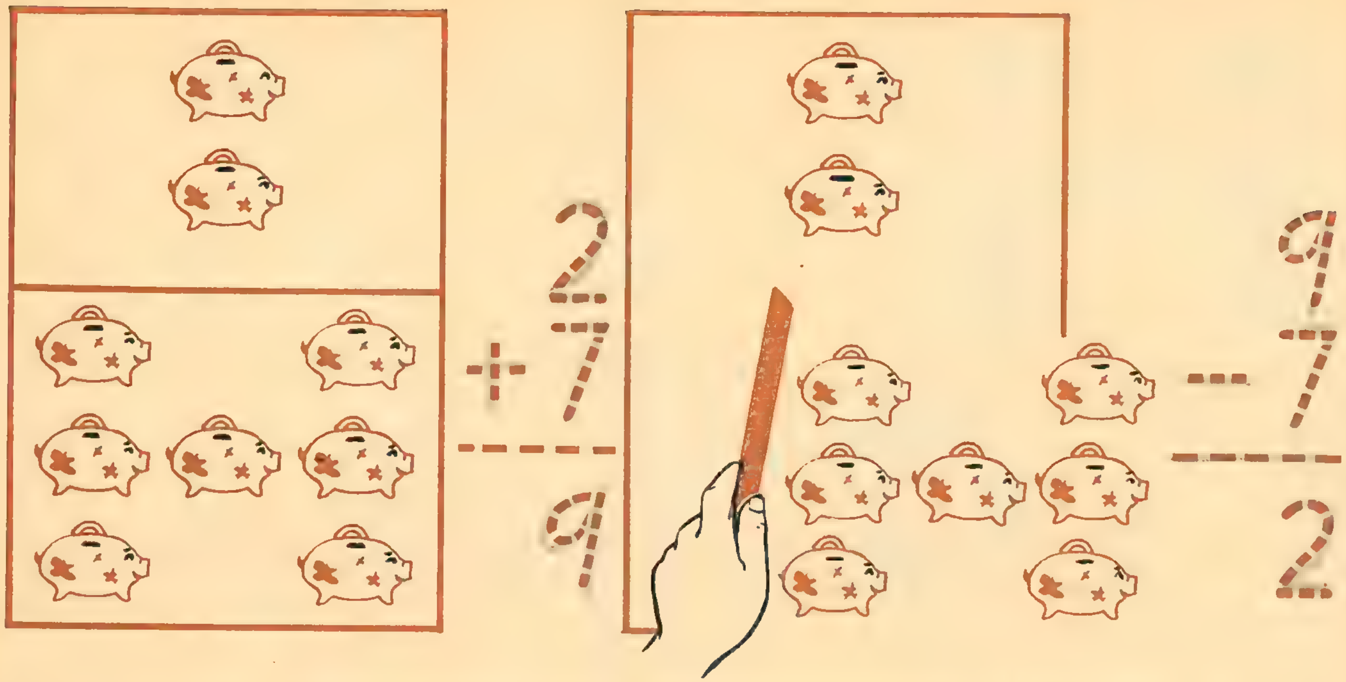


1 ball	9 is 1 and 10.	9 balls
+ 8 balls	9 is 1 and 8.	− 8 balls
9 balls	1 + 8 = 9	1 ball

1	5	6	1	4	1	3	1
+ 8	+ 3	+ 1	+ 8	+ 2	+ 8	+ 5	+ 8
9	8	7	9	6	9	8	9
1	1	1	2	9	8	7	9
+ 8	+ 6	+ 8	+ 4	− 8	− 3	− 1	− 8
9	7	9	6	1	5	6	1
6	9	8	9	9	7	9	6
− 2	− 8	− 5	− 8	− 8	− 6	− 8	− 4
4	1	3	1	1	1	1	2

Visualizing related facts 1 + 8 = 9 and 9 − 8 = 1. Children talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk picture of the story; then fill in the missing numbers. Follow a similar plan for 9 − 8 = 1.

A Way to Group 9 🐷s



2 + 7 = 9				9 − 7 = 2			

2 banks
+ 7 banks
banks

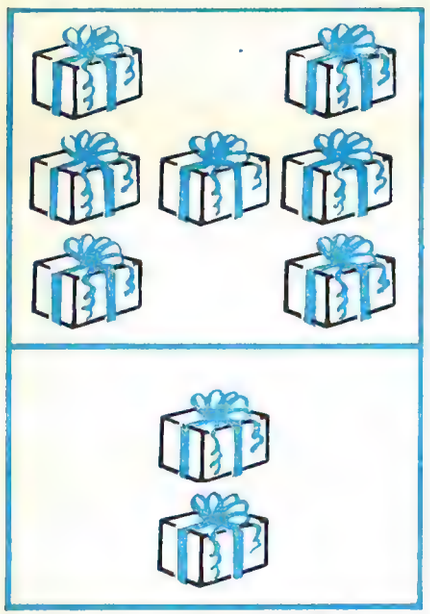
9 is 2 and 11.
9 is 2 and 7.
2 + 7 = 9

9 banks
− 7 banks
banks

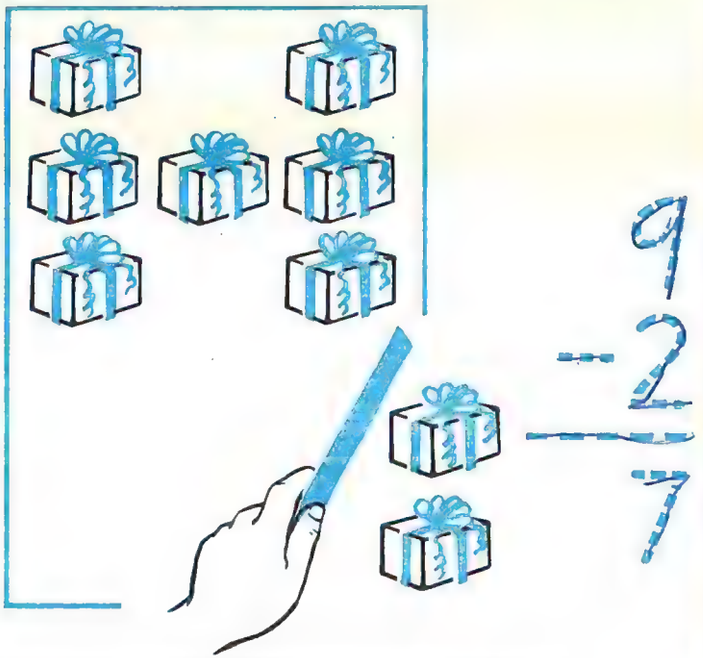
2 + 7	5 + 1	6 + 2	2 + 7
1 + 5	2 + 7	5 + 3	2 + 7
2 + 7	2 + 6	2 + 7	3 + 5
9 − 7	6 − 1	8 − 2	9 − 7
6 − 5	9 − 7	8 − 3	9 − 7
9 − 7	8 − 6	9 − 7	8 − 5

Associating related facts 2 + 7 = 9 and 9 − 7 = 2. Children talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk picture of the story; then fill in the missing numbers. Follow a similar plan for 9 − 7 = 2.

A Way to Group 9 s



$7 + 2 = 9$



$9 - 2 = 7$

$7 + 2 = 9$	$7 + 2 = 9$	$7 + 2 = 9$	$7 + 2 = 9$
$9 - 2 = 7$	$9 - 2 = 7$	$9 - 2 = 7$	$9 - 2 = 7$

7 gifts
+ 2 gifts
9 gifts

9 is 7 and 16.
9 is 7 and 2.
7 + 2 = 9

9 gifts
− 2 gifts
7 gifts

$7 + 2 = 9$	$5 + 3 = 8$	$4 + 2 = 6$	$7 + 2 = 9$
$8 + 1 = 9$	$7 + 2 = 9$	$2 + 4 = 6$	$7 + 2 = 9$
$7 + 2 = 9$	$3 + 5 = 8$	$7 + 2 = 9$	$1 + 8 = 9$
$9 - 2 = 7$	$8 - 3 = 5$	$6 - 2 = 4$	$9 - 2 = 7$
$9 - 7 = 2$	$9 - 2 = 7$	$6 - 4 = 2$	$9 - 2 = 7$
$9 - 2 = 7$	$8 - 5 = 3$	$9 - 2 = 7$	$9 - 8 = 1$

Visualizing related facts $7 + 2 = 9$ and $9 - 2 = 7$. Children talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk picture of the story; then fill in the missing numbers. Follow a similar plan for $9 - 2 = 7$.

Write half past 9 like this: 9:30.

9:30 means 30 minutes past 9 o'clock.

C


9:30 o'clock


12 o'clock


7 o'clock


5 o'clock


5:30 o'clock


8:30 o'clock


10 o'clock


o'clock


11:30 o'clock


1:30 o'clock


3:30 o'clock


4:30 o'clock


6:30 o'clock


7:30 o'clock


o'clock

Introduction of a new way to write half past the hour. Children count by 5's from 12 to 6 to see that the minute hand has gone 30 minutes past the hour when it is half past the hour. This explains the form 9:30.

How many pounds? 4

How many pounds? 3

How many pounds? 2

How many pounds does the boy weigh? 6

How many pounds do they both weigh? 7

How many pounds does the dog weigh? 10

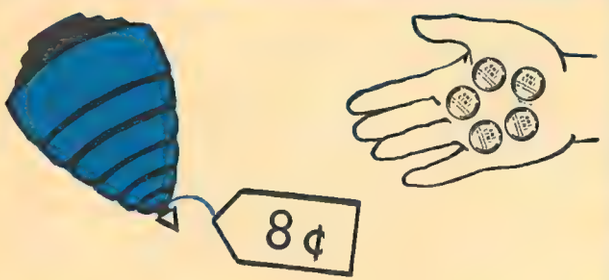
Meaning of pounds and half pounds. Children study and talk about each type of scales shown. If possible, provide a small scales so that the children may weigh actual objects. This would be an excellent time to weigh the children on the school scales.

Subtraction concept: How much more money is needed? In each picture the children see how much the article costs; count the pennies shown in the hand; and subtract the amount shown from the cost. They also think (as in problem 1): $3¢ + \_\_\_\_ ¢ = 5¢$.

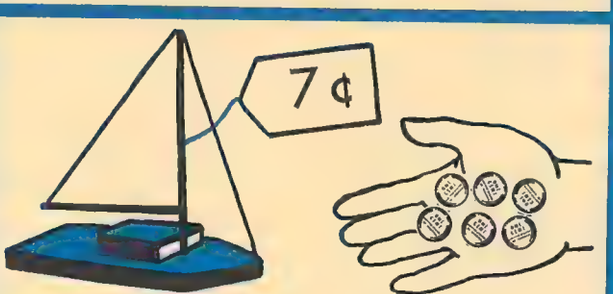
The apple costs 5 ¢.
I have only 3 ¢.
I still need 2 ¢.
3¢ + 2 ¢ = 5¢

The bell costs 8 ¢.
I have only 4 ¢.
I still need ___ ¢.
4¢ + ___ ¢ = 8¢

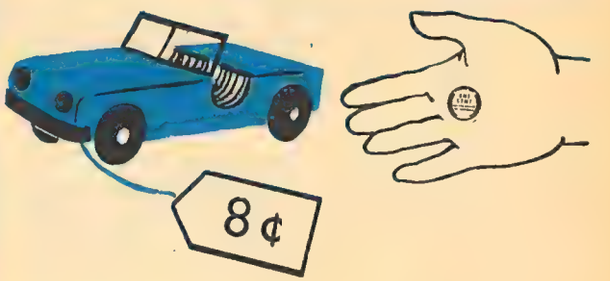
The ball costs 6 ¢.
I have only 2 ¢.
I still need 4 ¢.
2¢ + ___ ¢ = 6¢



The top costs 8 ¢.
I have only 3 ¢.
I still need 5 ¢.
5¢ + ___ ¢ = 8¢



The boat costs ___ ¢.
I have only 6 ¢.
I still need 1 ¢.
6¢ + ___ ¢ = 7¢



The car costs 8 ¢.
I have only 1 ¢.
I still need 7 ¢.
1¢ + ___ ¢ = 8¢

A penny
1 cent
1¢

A nickel
5 cents
5¢

A dime
10 cents
10¢

A penny = one cent.

A nickel = five pennies or five cents.

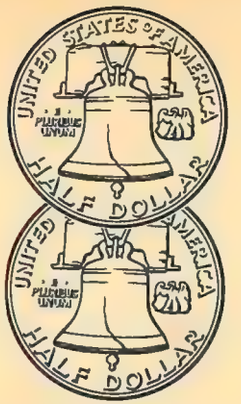
A dime = ten pennies or ten cents.

A dime = two nickels.

1. What one piece of money is the same as five cents? _____
2. What one piece of money is the same as ten cents? _____
3. What one piece of money is the same as two nickels? _____
4. A penny is how many cents? _____
5. A nickel is how many cents? _____
6. A dime is how many cents? _____
7. Two nickels are how many cents? _____
8. Which is more:
   a penny or a nickel? _____
   a dime or five pennies? _____

Reviewing coins presented in first grade and coin equivalents. If possible, provide real coins: 10 pennies, 2 nickels, 1 dime. As children read the questions, a child will answer by showing the actual coins. Later at their seats the children will write the answers.

Money equivalents to a dollar. If possible, provide at least one of each type of coin and a dollar bill so that children learn to identify real coins. Generalization: The less the coin is worth, the more of them it takes to equal a dollar.



1 dollar = 2 half dollars or 4 quarters

10 dimes = 100 cents or 1 dollar

20 nickels = 100 cents or 1 dollar

100 pennies or 1 dollar

1 nickel

5 pennies

1 dime

2 nickels

10 pennies

1 quarter

5 nickels

25 pennies

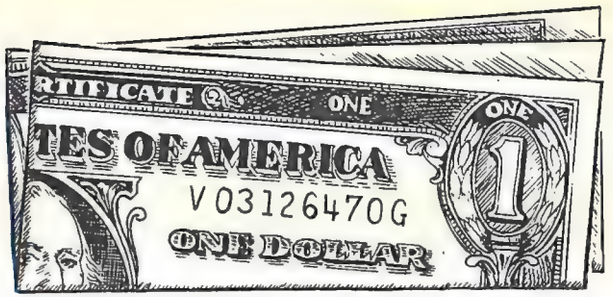
1 half dollar

2 quarters

5 dimes

10 nickels

50 pennies



1 dollar

is as much money as:

how many half dollars? 2

how many quarters? 4

how many dimes? 10

how many nickels? 20

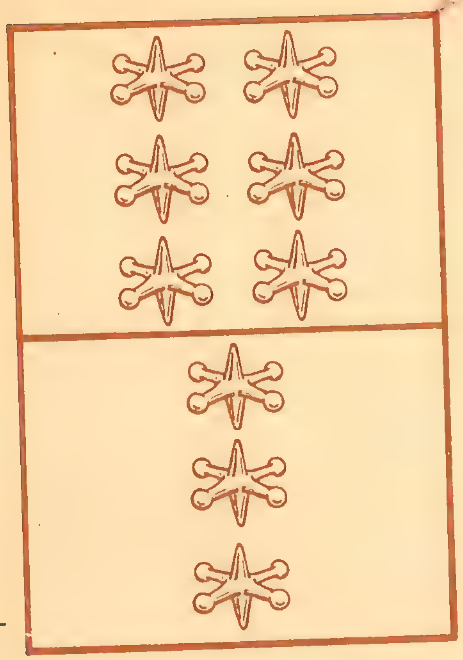
how many pennies? 100

5 cents

How many ✏s can I buy for  ? 5

Money equivalents. If possible, have 25 copper pennies, 10 nickels, 5 dimes, 2 quarters, 2 half dollars, and a dollar bill to teach the class lesson suggested in the Teachers Edition. At their seats the children will supply the missing numbers.

A Way to Group 9 ✲s



$$\begin{array}{r} 6 \\ +3 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 9 \\ -3 \\ \hline 6 \end{array}$$

6 + 3	7 + 1	2 + 4	6 + 3
4 + 3	6 + 3	1 + 7	6 + 3
6 + 3	4 + 2	6 + 3	3 + 4
9 − 3	8 − 1	6 − 4	9 − 3
7 − 3	9 − 3	8 − 7	9 − 3
9 − 3	6 − 2	9 − 3	7 − 4

$$\begin{array}{r} 6 \\ +3 \\ \hline 9 \end{array} \qquad \begin{array}{r} 9 \\ -3 \\ \hline 6 \end{array}$$

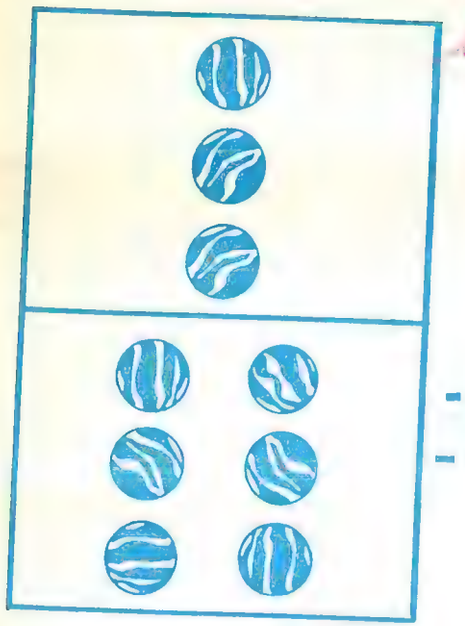
6 ✲s
\+ 3 ✲s
___ ✲s

9 is 6 and ___.
9 is ___ and 3.
6 + 3 = ___

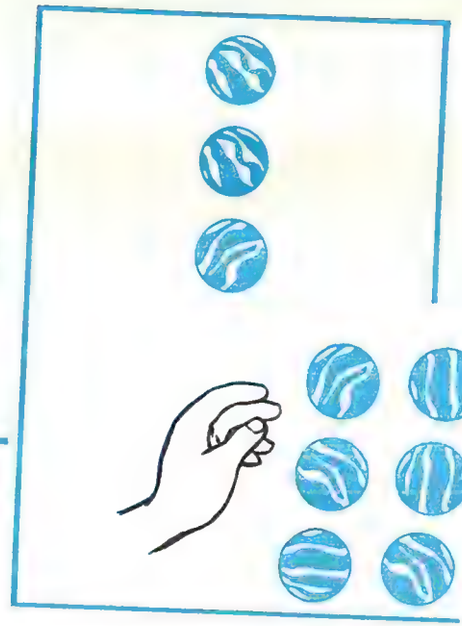
9 ✲s
− 3 ✲s
___ ✲s

Visualizing related facts 6 + 3 = 9 and 9 − 3 = 6. Children talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk picture of the [illegible] for 9 − 3 = 6.

A Way to Group 9 s



3 + 6 = 9



9 − 6 = 3

3			
+6			
9			

9			
−6			
3			

3 s
+6 s
9 s

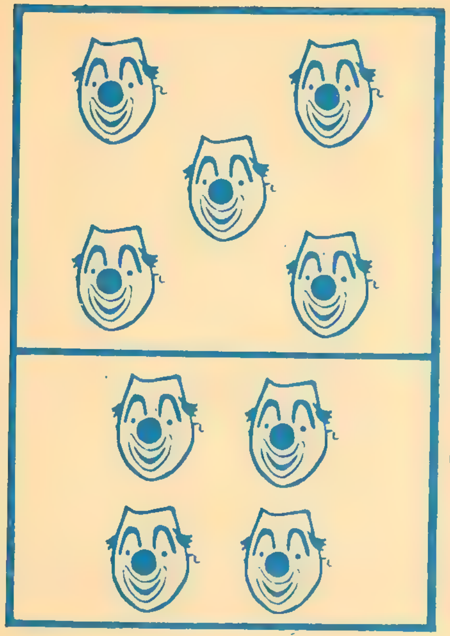
9 is 3 and 6.
9 is 3 and 6.
3 + 6 = 9

9 s
−6 s
3 s

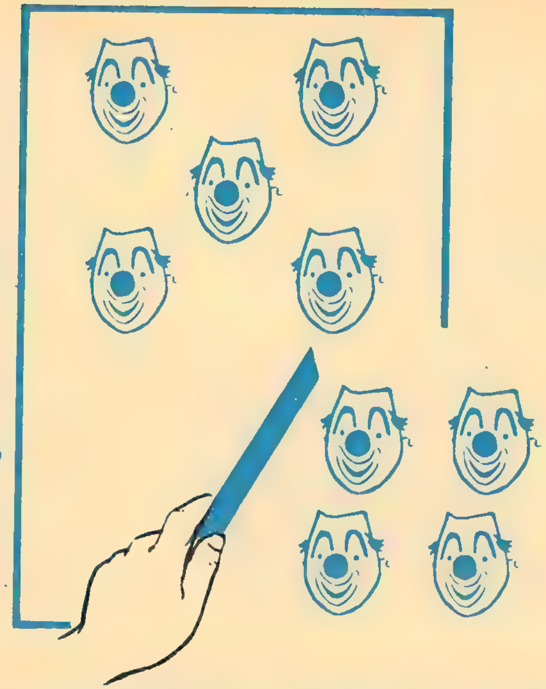
3	2	7	3
+6	+3	+1	+6
9	5	8	9
3	4	3	3
+6	+3	+6	+2
9	7	9	5
1	3	3	3
+7	+6	+4	+6
8	9	7	9
9	5	9	8
−6	−3	−6	−1
3	2	3	7
7	9	5	9
−3	−6	−2	−6
4	3	3	3
9	8	7	9
−6	−7	−4	−6
3	1	6	3

Talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk picture of the story; then fill in the missing numbers. Follow a similar plan for 9 − 6 = 3.

A Way to Group 9 s



$$\begin{array}{r} 5 \\ +4 \\ \hline 9 \end{array}$$



$$\begin{array}{r} 9 \\ -4 \\ \hline 5 \end{array}$$

$\begin{array}{r} 5 \\ +4 \\ \hline 9 \end{array}$				$\begin{array}{r} 9 \\ -4 \\ \hline 5 \end{array}$			

5 s
+ 4 s
___ s

9 is 5 and ___.
9 is ___ and 4.
5 + 4 = ___

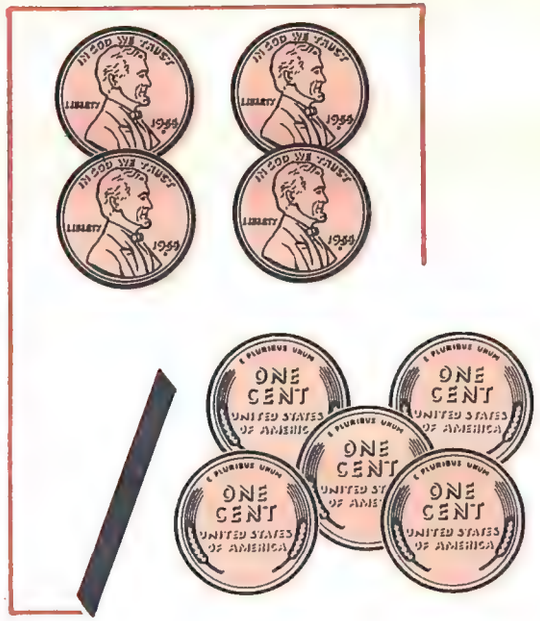
9 s
− 4 s
___ s

$5 + 4$	$7 + 2$	$5 + 4$	$5 + 2$
$5 + 3$	$5 + 4$	$2 + 7$	$5 + 4$
$5 + 4$	$2 + 5$	$3 + 5$	$5 + 4$
$9 - 4$	$9 - 2$	$9 - 4$	$7 - 2$
$8 - 3$	$9 - 4$	$9 - 7$	$9 - 4$
$9 - 4$	$7 - 2$	$8 - 5$	$9 - 4$

talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk picture of the ... for 9 − 4 = 5.

A Way to Group 9 ¢s

$4 + 5 = 9$



$9 - 5 = 4$

$4 + 5 = 9$			
$9 - 5 = 4$			

4 pennies
+ 5 pennies
pennies

9 is 4 and ___.
9 is ___ and 5.
4 + 5 = ___

9 pennies
− 5 pennies
pennies

4 + 5 = 9	6 + 2 = 8	4 + 5 = 9	5 + 1 = 6
8 + 1 = 9	4 + 5 = 9	2 + 6 = 8	4 + 5 = 9
4 + 5 = 9	1 + 5 = 6	1 + 8 = 9	4 + 5 = 9
9 − 5 = 4	8 − 2 = 6	9 − 5 = 4	6 − 1 = 5
9 − 1 = 8	9 − 5 = 4	8 − 6 = 2	9 − 5 = 4
9 − 5 = 4	6 − 5 = 1	9 − 8 = 1	9 − 5 = 4

Visualizing related facts $4 + 5 = 9$ and $9 - 5 = 4$. Children talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk picture of the story; then fill in the missing numbers. Follow a similar plan for $9 - 5 = 4$.

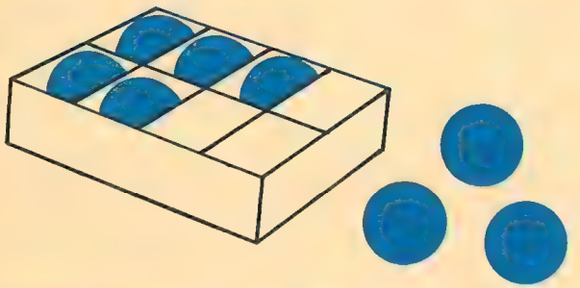
Visualization of story problems; review of number facts. Children use the pictures to supply the missing numbers. They then work the problems, filling in the missing numbers. Finally, they answer the number questions across the bottom of the page.

9 s were on a .

Down go 2 s.

7 s are left.

9 s
− 2 s
7 s

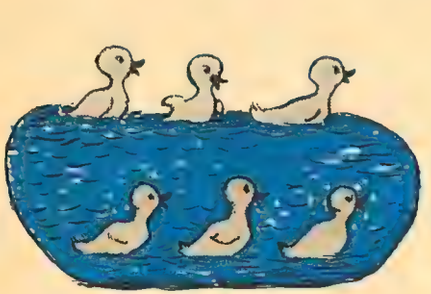


8 balls were in a box.

Bob took out 3 balls.

5 balls were left in the box.

8 balls
− 3 balls
5 balls



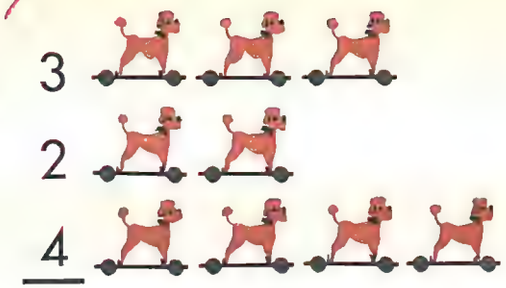
4 s are on the .

3 s come to the .

7 s in all.

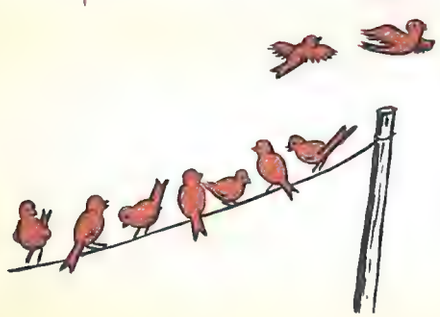
4 s
+ 3 s
7 s

4 + 5	6 + 2	9 − 7	9 − 4	3 + 6	9 − 8	5 + 3	9 − 6	8 − 5	2 + 7	5 + 4	9 − 5



Column addition with sums of 9 or less. As a learning aid the teacher will tell the class a number to think which will be the sum of the top two numbers of an example. Then the teacher will write the third number of the example on the board. This will be class practice.

2 1 6 9	2 0 5 7	1 6 2 9	1 4 1 6	6 1 2 9	1 0 7 8	1 4 4 9	2 0 7 9	4 1 3	1 2 4 7	3 0 3 6	2 4 3 9
1 1 7 9	3 0 6 9	3 2 3 8	1 3 5 9	1 2 3 6	2 1 4 7	3 4 2 9	7 0 2 9	4 4 1 9	1 3 3 7	2 0 4 6	2 4 1 7



There were 9 s.

See 2 s go.

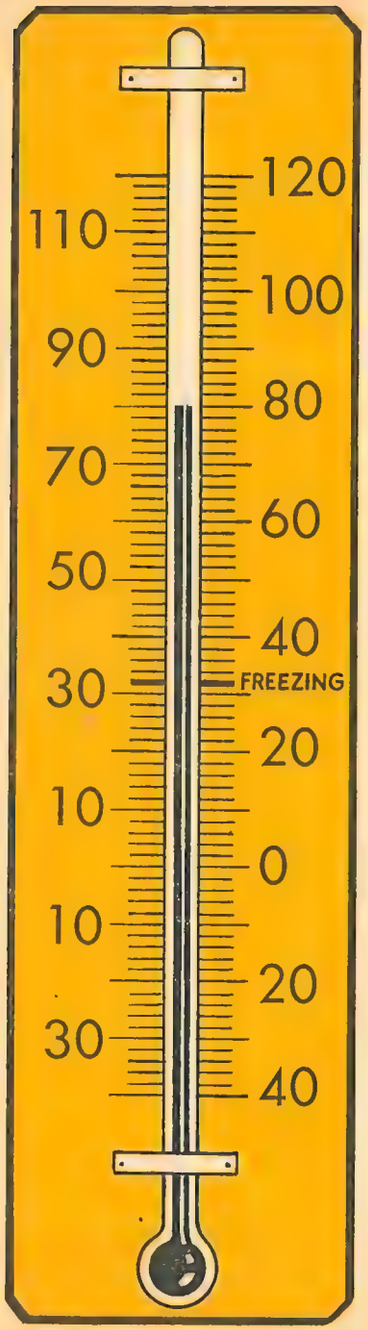
7 s are left.

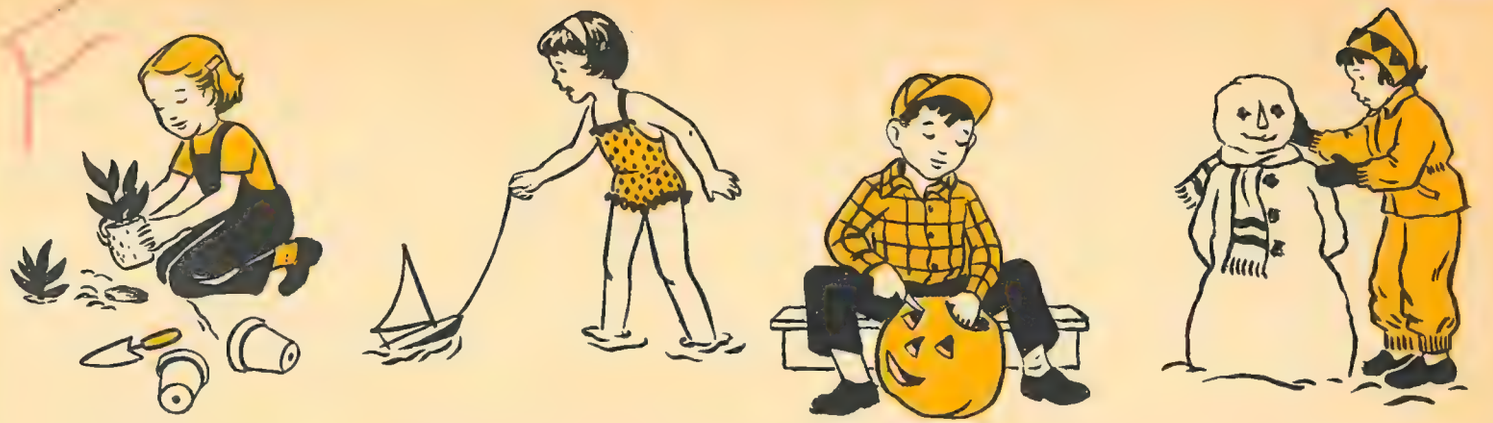
2 horses eat.

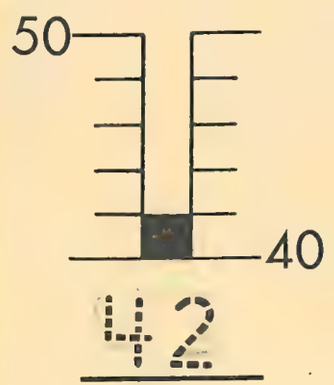
horses come.

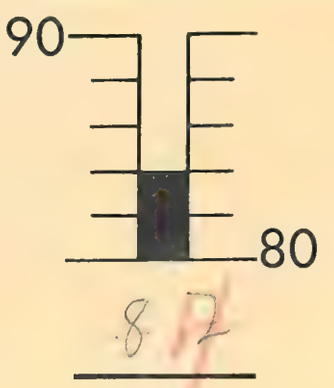
horses in all

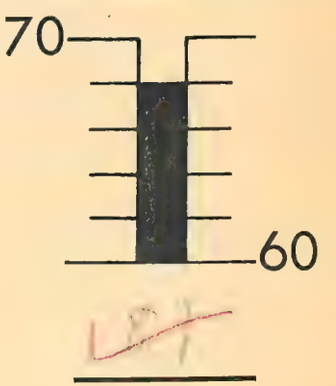
Reading a thermometer. Children will locate the part of the thermometer on the whole thermometer at the left, but they will read the temperature from the enlarged parts. If possible, provide a large thermometer with a sliding ribbon as suggested in the Teachers Edition.

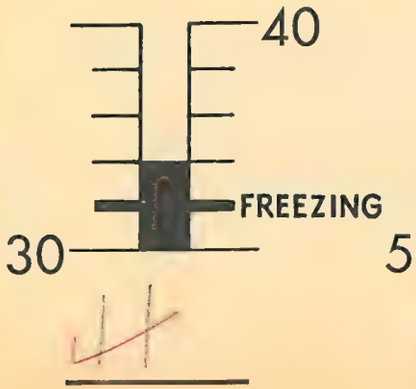


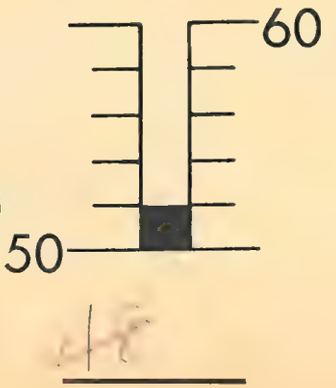


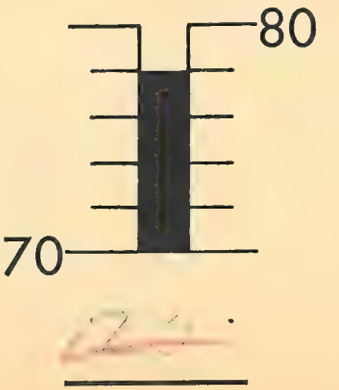












Can you answer?

1. 

This is Jack's dog.

This is how to find his name.

A	B	C	K	E	I	L

first letter B . . . . second box
second letter L . . . last box
third letter A . . . first box
fourth letter C . . . third box
fifth letter . . K . . fourth box
sixth letter . . I . . . sixth box
last letter . . . E . . . fifth box

B L A C K I E

2. Each clock shows what time?

A 10

B 4

3.

A 

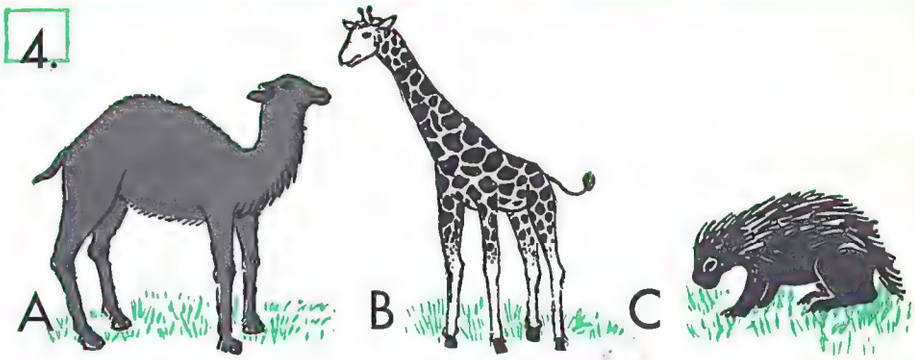
B 

C 

Which is the longest? C

Which is the shortest? B

4.



A B C

Which is the tallest? B

Which is the shortest? C

5.

MAY						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

What day of the week is

May 3? S

May 7? M

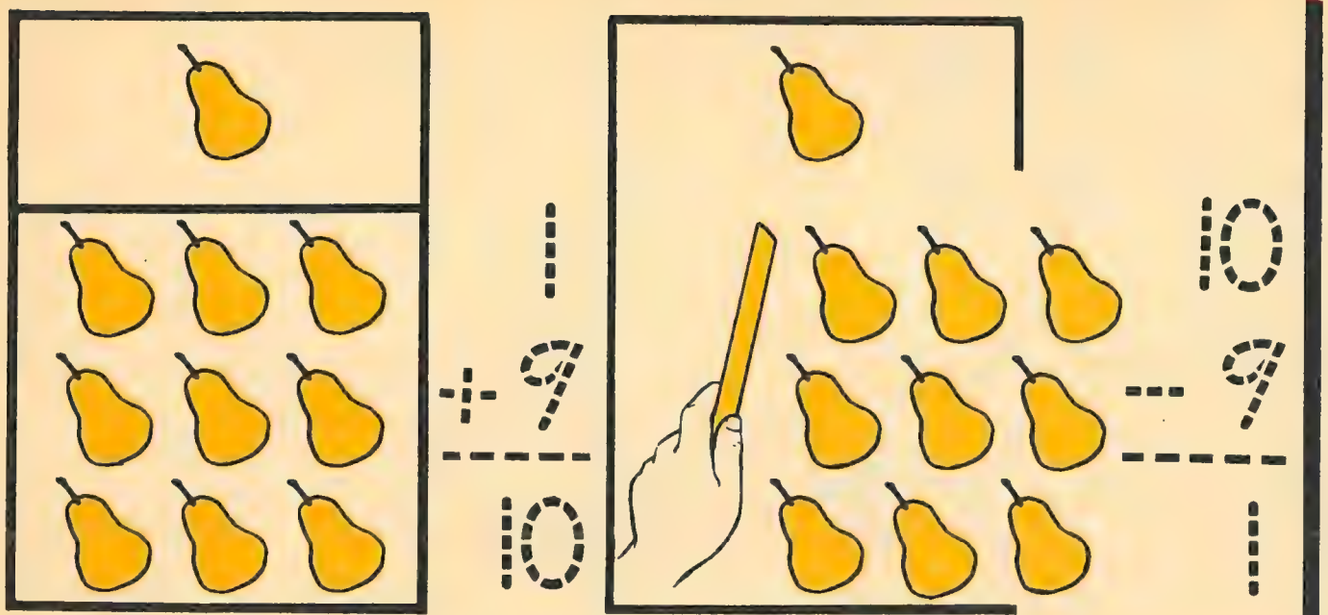
May 16? T

May 26? F

Testing important topics presented in this book. Test includes ordinal numbers, first through sixth; time; linear measure, inches and half inches; terms of comparison, tallest and shortest; calendar and days of the week.

Visualizing related facts $1 + 9 = 10$ and $10 - 9 = 1$. Children talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk picture of the story; then fill in the missing numbers. Follow a similar plan for $10 - 9 = 1$.

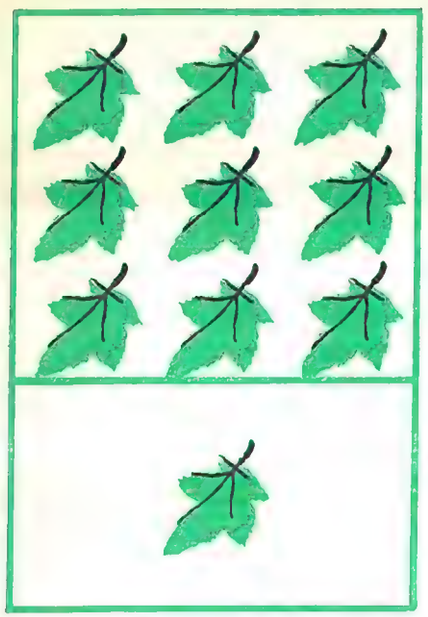
A Way to Group 10 s

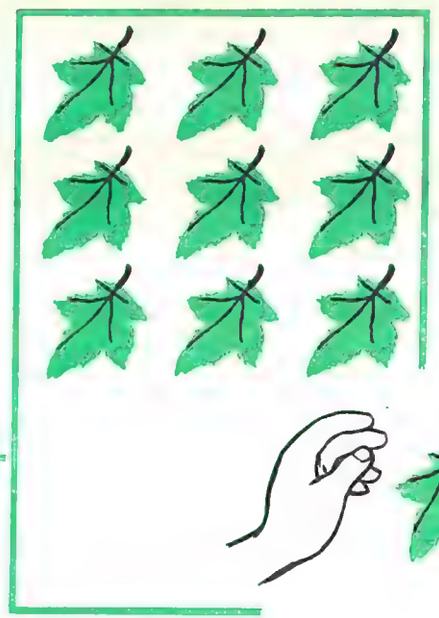


1	10 is 1 and ___.	10 s
+ 9 s	10 is ___ and 9.	− 9 s
___ s	1 + 9 = ___	___

1 + 9	6 + 2	1 + 9	5 + 4
5 + 2	1 + 9	2 + 6	1 + 9
4 + 5	1 + 9	2 + 5	1 + 9
10 − 9	8 − 2	10 − 9	9 − 4
7 − 2	10 − 9	8 − 6	10 − 9
9 − 5	10 − 9	7 − 5	10 − 9

A Way to Group 10 s





9 + 1 = 10

10 − 1 = 9

9 + 1 = 10			

10 − 1 = 9			

9 s
+ 1 s
s

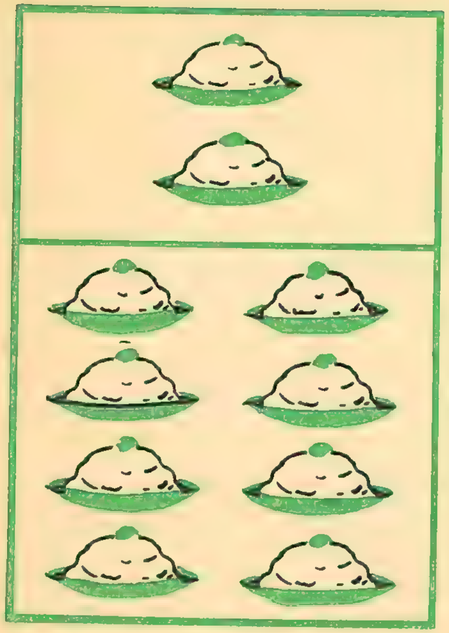
10 is 9 and ___.
10 is ___ and 1.
9 + 1 = ___

10 s
− 1 s
s

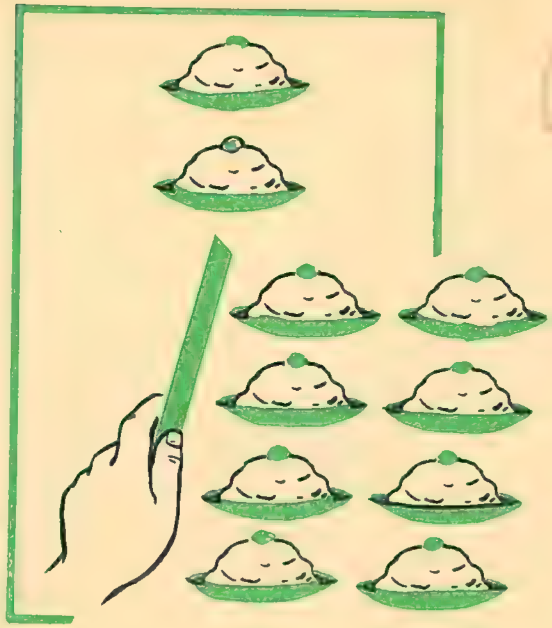
Visualizing related facts 9 + 1 = 10 and 10 − 1 = 9. Children talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk picture of the story; then fill in the missing numbers. Follow a similar plan for 10 − 1 = 9.

9 + 1	7 + 2	9 + 1	4 + 5
3 + 3	9 + 1	2 + 7	9 + 1
9 + 1	2 + 2	9 + 1	1 + 1
10 − 1	9 − 2	10 − 1	8 − 4
6 − 3	10 − 1	9 − 7	10 − 1
10 − 1	4 − 2	10 − 1	2 − 1

A Way to Group 10 dishes



2 + 8 = 10



10 − 8 = 2

2 + 8 = 10			

10 − 8 = 2			

2 dishes
+ 8 dishes
___ dishes

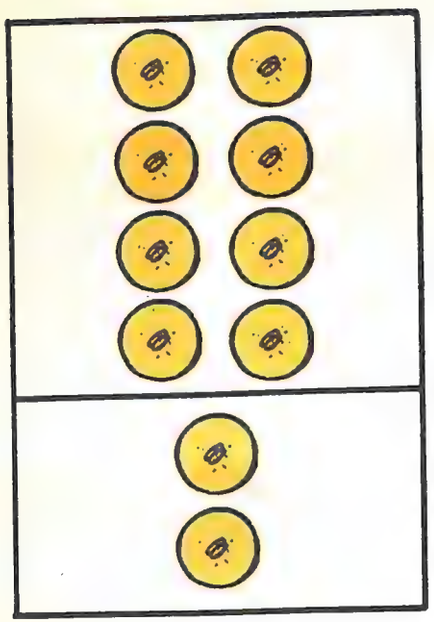
10 is 2 and ___.
10 is ___ and 8.
2 + 8 = ___

10 dishes
− 8 dishes
___ dishes

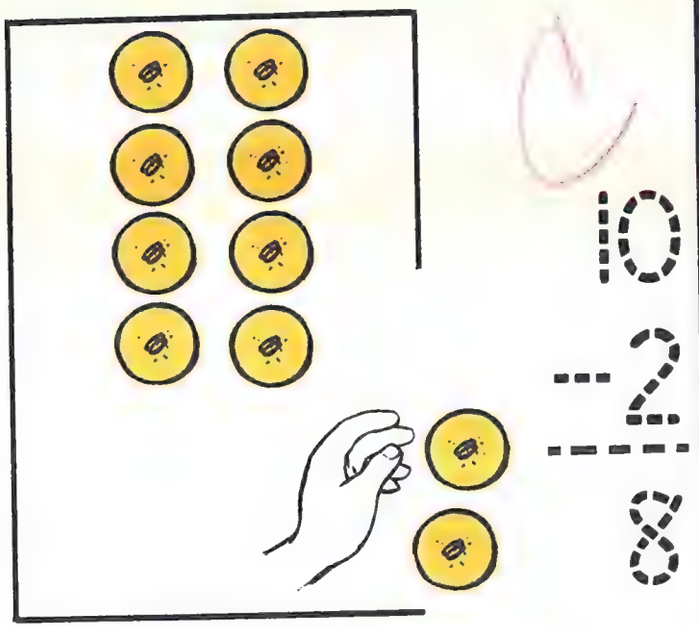
2 + 8	4 + 5	1 + 9	2 + 8
2 + 8	5 + 4	2 + 8	7 + 2
9 + 1	2 + 8	2 + 7	2 + 8
10 − 8	9 − 5	10 − 8	10 − 9
9 − 4	10 − 8	9 − 2	10 − 8
10 − 8	10 − 1	9 − 7	10 − 8

Visualizing related facts 2 + 8 = 10 and 10 − 8 = 2. Children talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk picture of the story; then fill in the missing numbers. Follow a similar plan for 10 − 8 = 2.

A Way to Group 10 ⊙ s



8 + 2 = 10



10 − 2 = 8

8			
+2			
10			

10			
−2			
8			

8 ⊙ s
+ 2 ⊙ s
⊙ s

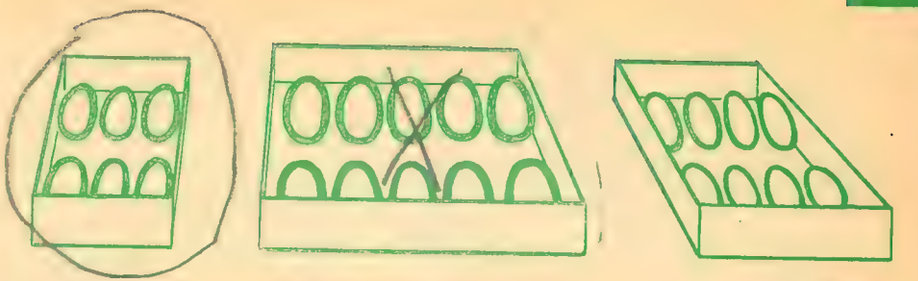
10 is 8 and ___.
10 is ___ and 2.
8 + 2 = ___

10 ⊙ s
− 2 ⊙ s
⊙ s

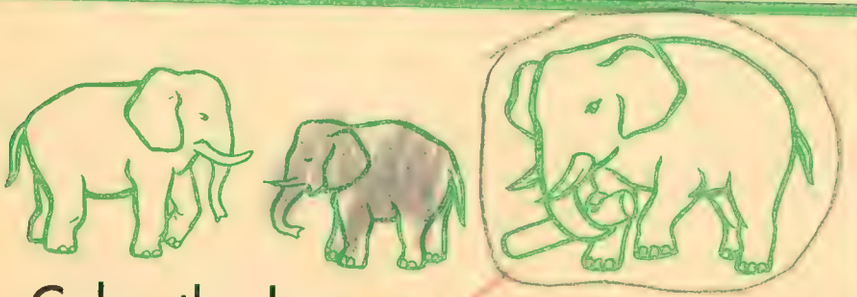
8	6	4	8
+2	+3	+3	+2
5	8	3	8
+3	+2	+6	+2
8	3	8	3
+2	+4	+2	+5
10	9	7	10
−2	−3	−3	−2
8	10	9	10
−3	−2	−6	−2
10	7	10	8
−2	−4	−2	−3

Visualizing related facts 8 + 2 = 10 and 10 − 2 = 8. Children talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk picture of the story; then fill in the missing numbers. Follow a similar plan for 10 − 2 = 8.

Put X on the most.
Put a ring around the fewest.

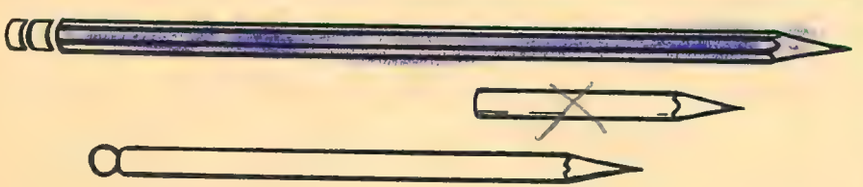


Put a ring around the most.
Put X on the fewest.

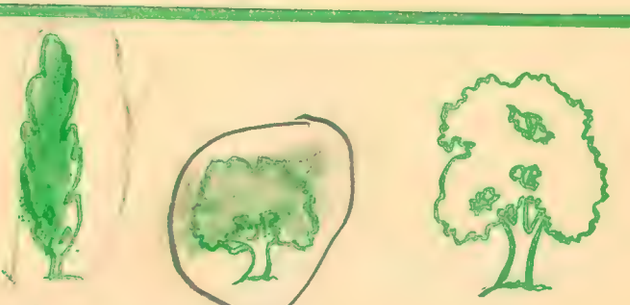


Color the largest.
Put a ring around the smallest.

Color the tallest.
Put X on the shortest.



Color the longest.
Put X on the shortest.



Color the tallest.
Put a ring around the shortest.

Arithmetical terms of comparison: most, fewest, largest, smallest, longest, shortest, tallest. Provide class practice on these terms by choosing the longest of three pencils of different lengths, etc. At their seats the children follow the written directions.

___ s were in Sally's flower garden.

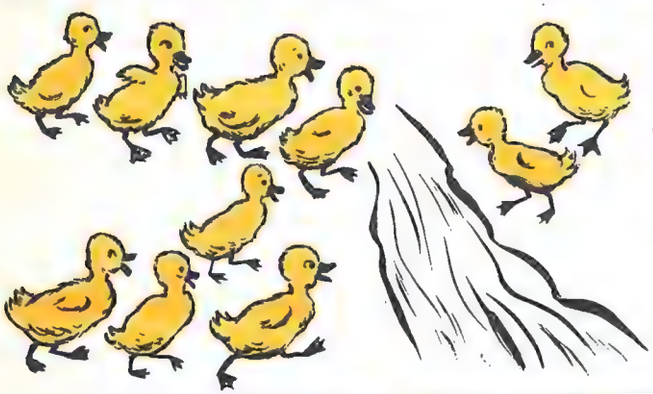
___ s were broken by the wind.

___ s are left standing.

9 s

− ___ s

___ s



___ s come from one side.

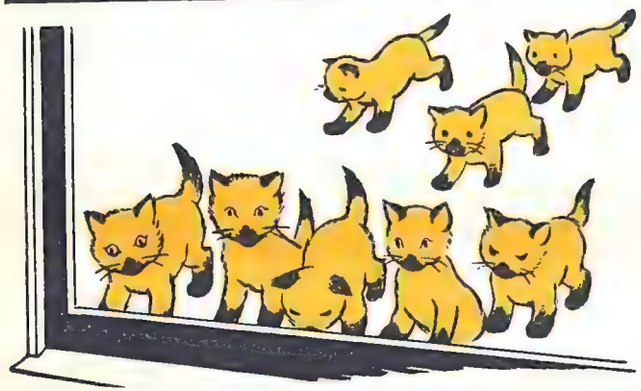
___ s come from the other side.

___ s in all

8 s

+ ___ s

___ s



___ s are looking out of a ▭.

___ s are coming to look.

___ s in all

5 s

+ ___ s

___ s

1 foot = ___ inches

2 pints = ___ quart

1 quart = ___ pints

Visualization of story problems. Children use the pictures to supply the missing numbers. They then work the problems filling in the missing numbers at the right of each problem.

The dozen and half dozen. Children discuss the articles on the counter. They name things sold by the dozen. (Eggs, lemons, doughnuts, etc.) In class they answer the questions orally. At their seats children will mark and write the correct answers.

There are 12 things in 1 dozen.

1. Are there 1 dozen ◎ s? Yes No
2. Are there 1 dozen 🍋 s? Yes No
3. Are there 1 dozen eggs? Yes No
4. Are there 1 dozen pieces of SOAP? Yes No

There are 6 things in a half dozen.

Is this 1 dozen 🌸 s?

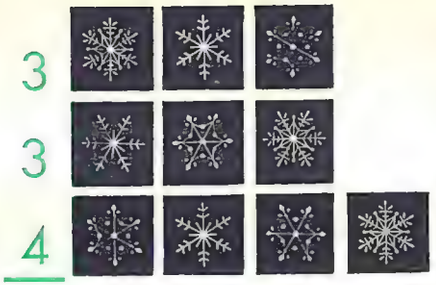
Yes No

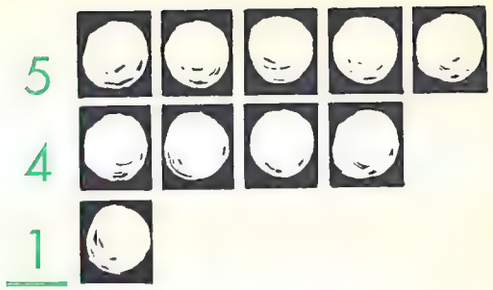
Color a half dozen 🌸 s brown.

How many 🌸 s did you color? ___

How many 🌸 s are white? ___

1 dozen 🌸 s is 6 🌸 s + ___ more 🌸 s.





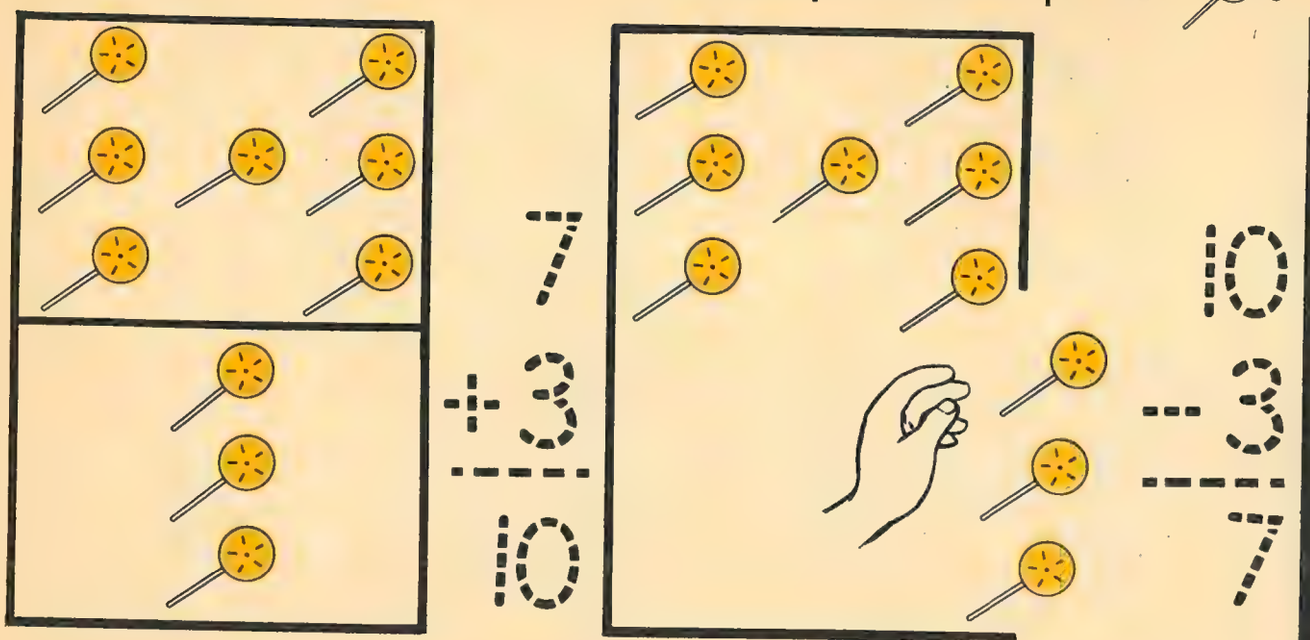
8 1 1	2 0 8	2 3 4	6 2 1	2 2 3	4 5 1
7 2 1	4 4 2	1 5 1	3 3 3	6 2 2	1 0 9
6 3 1	2 6 1	4 3 2	1 3 5	2 2 4	7 1 2

1 8 1	8 0 2	3 1 4	2 7 1	1 1 8	4 1 2
1 7 2	5 4 1	2 1 5	3 6 1	5 3 2	3 1 2
2 6 2	9 0 1	3 4 1	3 3 2	1 2 4	2 1 5

Column addition with sums of 10 or less. In class provide practice in adding a **seen** number to a **thought-of** number as suggested for page 112.

Visualizing the related facts $7 + 3 = 10$ and $10 - 3 = 7$. Children talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk picture of the story; then fill in the missing numbers. Follow a similar plan for $10 - 3 = 7$.

A Way to Group 10 s



7	10
+3	−3
10	7

7 s
+3 s
s

10 is 7 and ___.

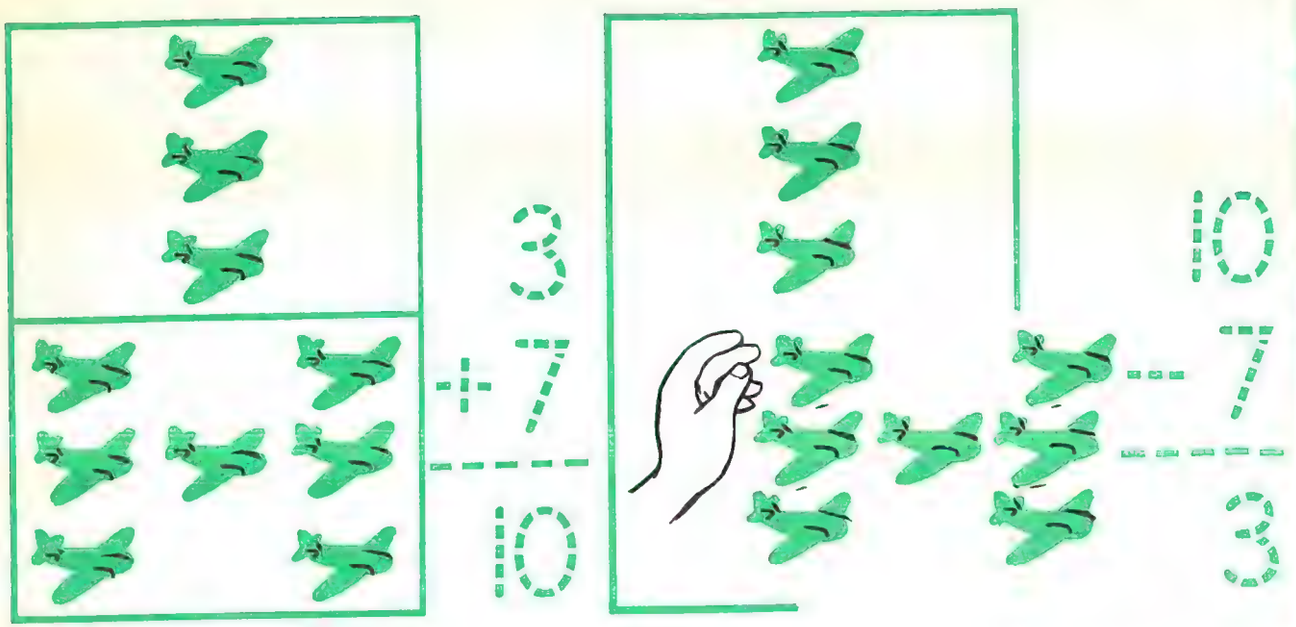
10 is ___ and 3.

7 + 3 = ___

10 s
−3 s
s

7 +3	7 +1	7 +3	9 +1
5 +2	7 +3	1 +7	7 +3
7 +3	1 +9	7 +3	2 +5
10 −3	8 −1	10 −3	10 −1
7 −2	10 −3	8 −7	10 −3
10 −3	10 −9	10 −3	7 −5

A Way to Group 10 ✈ s



3	10
+7	−7
10	3

3 ✈ s
+7 ✈ s
✈ s

10 is 3 and ___.
10 is ___ and 7.
3 + 7 = ___

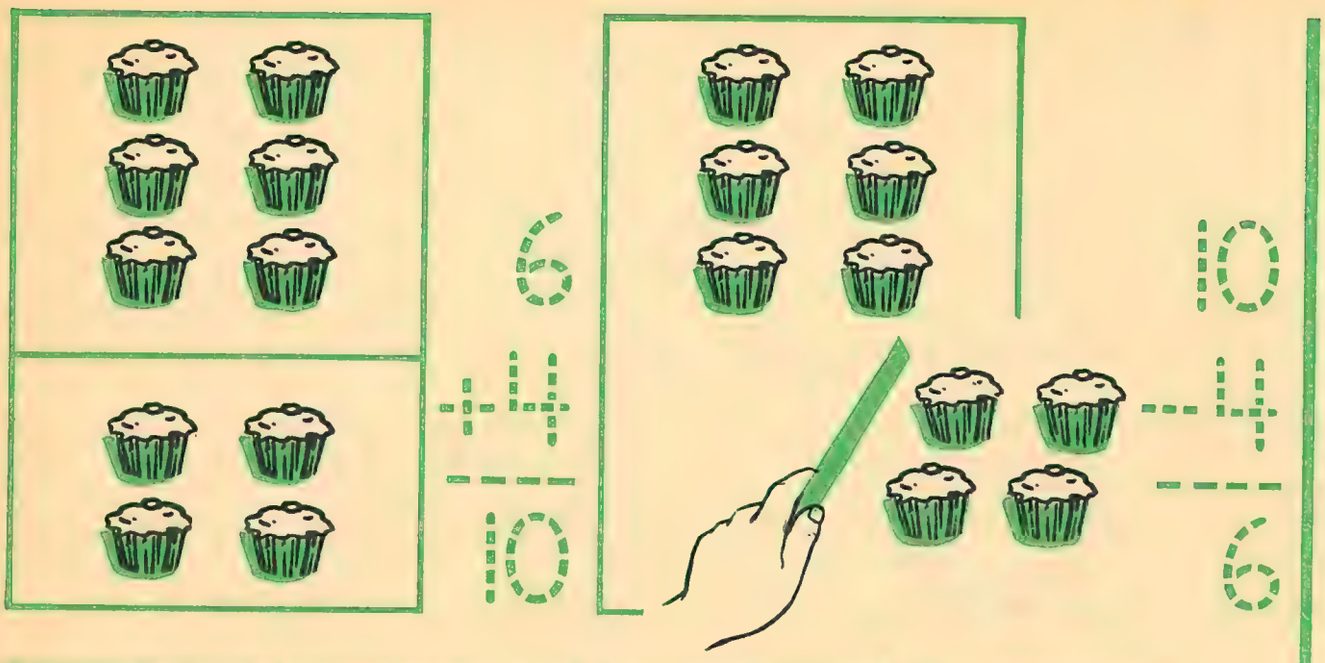
10 ✈ s
−7 ✈ s
✈ s

Visualizing the related facts 3 + 7 = 10 and 10 − 7 = 3. Children talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk picture of the story; then fill in the missing numbers. Follow a similar plan for 10 − 7 = 3.

3 + 7	8 + 1	4 + 2	3 + 7
8 + 2	3 + 7	1 + 8	3 + 7
2 + 8	3 + 7	2 + 4	3 + 7
10 − 7	9 − 1	6 − 2	10 − 7
10 − 2	10 − 7	9 − 8	10 − 7
10 − 8	10 − 7	6 − 4	10 − 7

Visualizing the related facts $6 + 4 = 10$ and $10 - 4 = 6$. Children talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk picture of the story; then fill in the missing numbers. Follow a similar plan for $10 - 4 = 6$.

A Way to Group 10 s



$$\begin{array}{r} 6 \\ +\,4 \\ \hline 10 \end{array} \qquad \begin{array}{r} 10 \\ -\,4 \\ \hline 6 \end{array}$$

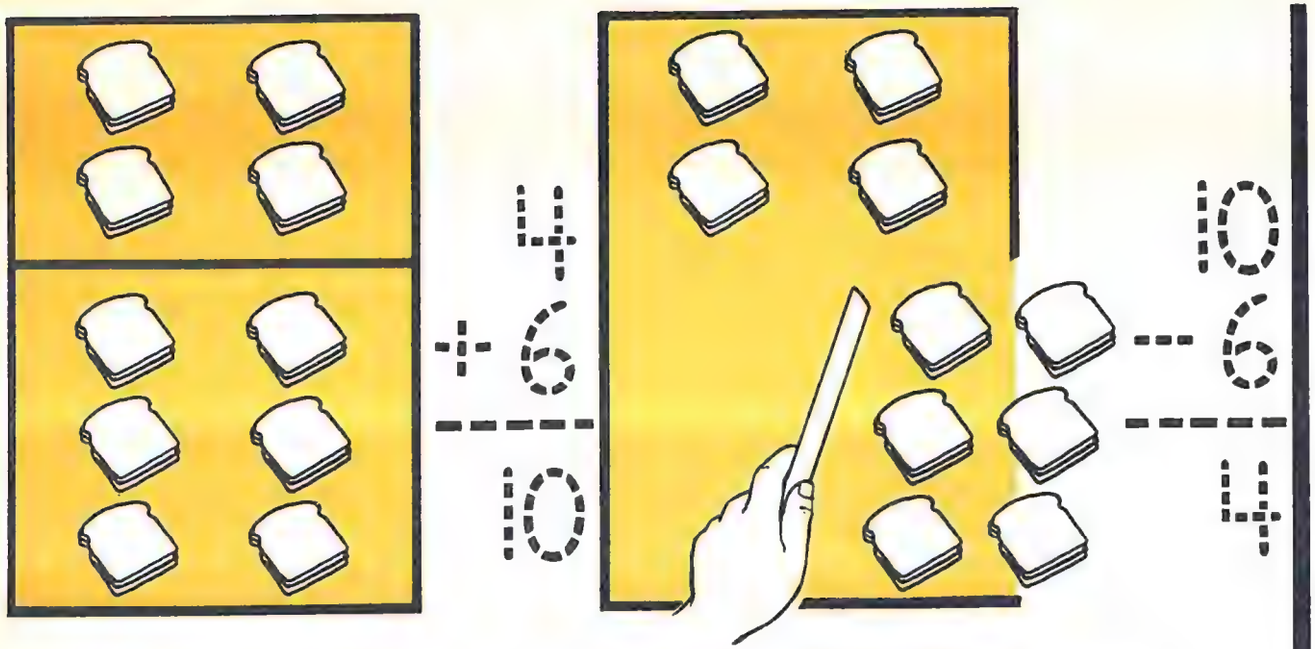
6 cakes
+ 4 cakes
10 cakes

10 is 6 and 4.
10 is 6 and 4.
6 + 4 = 10

10 cakes
− 4 cakes
6 cakes

$\begin{array}{r} 6 \\ +\,4 \\ \hline 10 \end{array}$	$\begin{array}{r} 7 \\ +\,3 \\ \hline 10 \end{array}$	$\begin{array}{r} 6 \\ +\,4 \\ \hline 10 \end{array}$	$\begin{array}{r} 8 \\ +\,1 \\ \hline 9 \end{array}$
$\begin{array}{r} 6 \\ +\,2 \\ \hline 8 \end{array}$	$\begin{array}{r} 6 \\ +\,4 \\ \hline 10 \end{array}$	$\begin{array}{r} 3 \\ +\,7 \\ \hline 10 \end{array}$	$\begin{array}{r} 6 \\ +\,4 \\ \hline 10 \end{array}$
$\begin{array}{r} 6 \\ +\,4 \\ \hline 10 \end{array}$	$\begin{array}{r} 1 \\ +\,8 \\ \hline 9 \end{array}$	$\begin{array}{r} 2 \\ +\,6 \\ \hline 8 \end{array}$	$\begin{array}{r} 6 \\ +\,4 \\ \hline 10 \end{array}$
$\begin{array}{r} 10 \\ -\,4 \\ \hline 6 \end{array}$	$\begin{array}{r} 10 \\ -\,3 \\ \hline 7 \end{array}$	$\begin{array}{r} 10 \\ -\,4 \\ \hline 6 \end{array}$	$\begin{array}{r} 9 \\ -\,1 \\ \hline 8 \end{array}$
$\begin{array}{r} 8 \\ -\,2 \\ \hline 6 \end{array}$	$\begin{array}{r} 10 \\ -\,4 \\ \hline 6 \end{array}$	$\begin{array}{r} 10 \\ -\,7 \\ \hline 3 \end{array}$	$\begin{array}{r} 10 \\ -\,4 \\ \hline 6 \end{array}$
$\begin{array}{r} 10 \\ -\,4 \\ \hline 6 \end{array}$	$\begin{array}{r} 9 \\ -\,8 \\ \hline 1 \end{array}$	$\begin{array}{r} 8 \\ -\,6 \\ \hline 2 \end{array}$	$\begin{array}{r} 10 \\ -\,4 \\ \hline 6 \end{array}$

A Way to Group 10 s



4
+ 6
10

10
− 6
4

4 s

+ 6 s

10 s

10 is 4 and ___.

10 is ___ and 6.

4 + 6 = ___

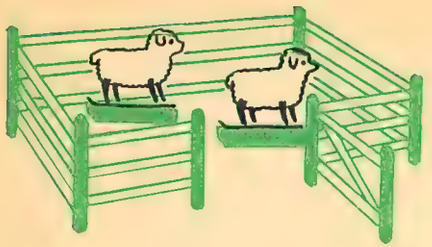
10 s

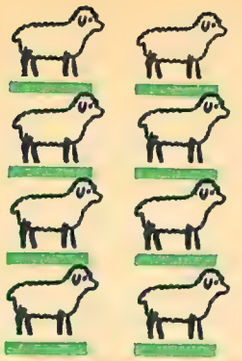
− 6 s

___ s

4	1	4	7
+ 6	+ 5	+ 6	+ 2
6	4	5	4
+ 3	+ 6	+ 1	+ 6
4	2	3	4
+ 6	+ 7	+ 6	+ 6
10	6	10	9
− 6	− 5	− 6	− 2
9	10	6	10
− 3	− 6	− 1	− 6
10	9	9	10
− 6	− 7	− 6	− 6

Visualizing the related facts 4 + 6 = 10 and 10 − 6 = 4. Children talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk picture of the story; then fill in the missing numbers. Follow a similar plan for 10 − 6 = 4.

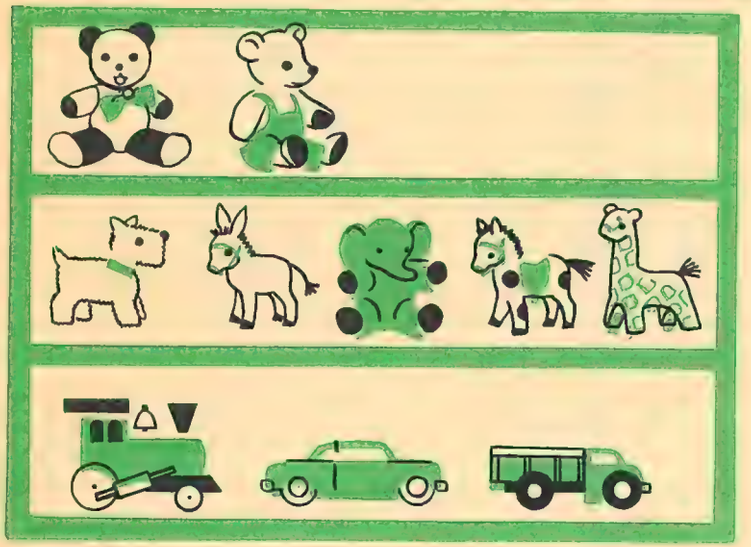




Jack has ___ toy sheep in the pen.

Jack has ___ more toy sheep.

Jack has ___ toy sheep in all.



Bob put ___ toys on the top ⊏.

He put ___ toys on the next ⊏.

He put ___ toys on the bottom ⊏.

He has ___ toys in all.

___ balloons in all

___ balloons break.

___ balloons are left.

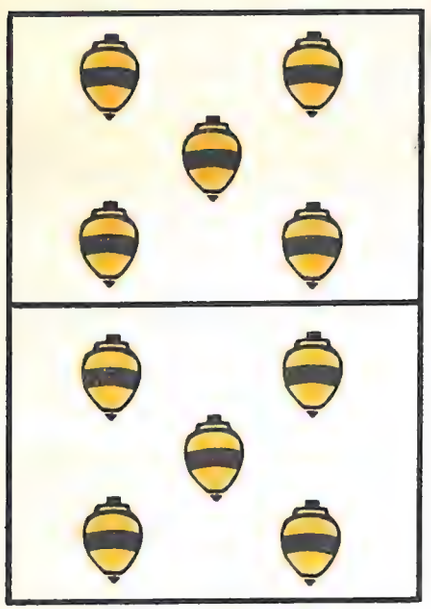
___ cups in all

___ cup breaks.

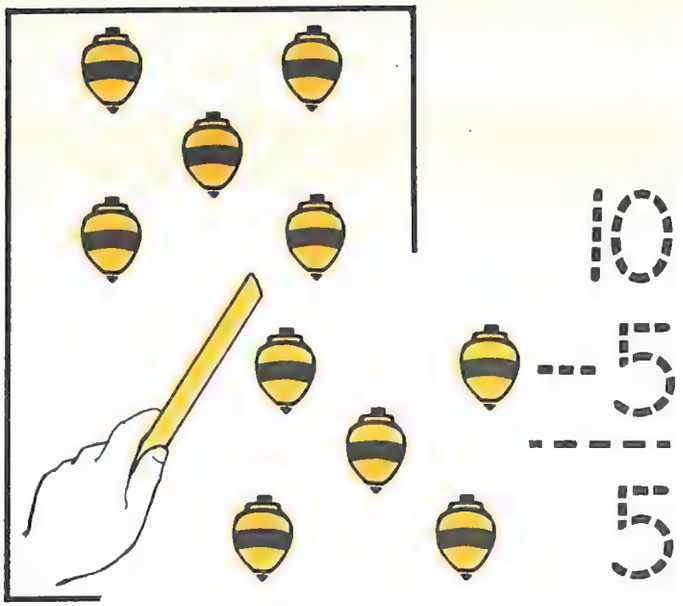
___ cups are left.

Visualizing story problems. Children use the pictures to supply the missing numbers. They then work the problem in the box at the right of each problem.

A Way to Group 10 s



5
+5
10



10
−5
5

5			
+5			
10			

10			
−5			
5			

5 tops
+ 5 tops
tops

10 is 5 and ___.
10 is ___ and 5.
5 + 5 = ___

10 tops
− 5 tops
tops

5	6	3	5
+5	+1	+5	+5
5	5	5	5
+4	+5	+3	+5
1	5	4	5
+6	+5	+5	+5
10	7	8	10
−5	−1	−5	−5
9	10	8	10
−4	−5	−3	−5
7	10	9	10
−6	−5	−5	−5

Visualizing the related facts 5 + 5 = 10 and 10 − 5 = 5. Children talk about the number story in the grouped picture at the left; dramatize the story with objects; make a disk picture of the story; then fill in the missing numbers. Follow a similar plan for 10 − 5 = 5.

Can you answer?

1. 

Which birds are flying?

Circle the finding numbers that tell.

first second third fourth fifth

2. A  B 

Which is cut in half? B A

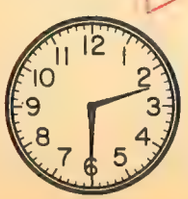
3. What number comes:

a. after 49? ___ b. before 70? ___

c. between 58 and 60? ___

4. 34 = ___ tens and ___ ones.

5. 50 = ___ tens and ___ ones.

6. 

This clock shows what time? ___

7. Which is more?

a. 1 quart or 3 pints ___

b. 3 cups or 1 quart ___

8. Which number is the most?

160 116 106 ___

9. 

Each of 2 boys gets the same.

Each boy gets ___ s.

10. One half dollar is as much money as:

a. ___ quarters. c. ___ nickels.

b. ___ dimes. d. ___ pennies.

11. a. One dozen = ___ eggs.

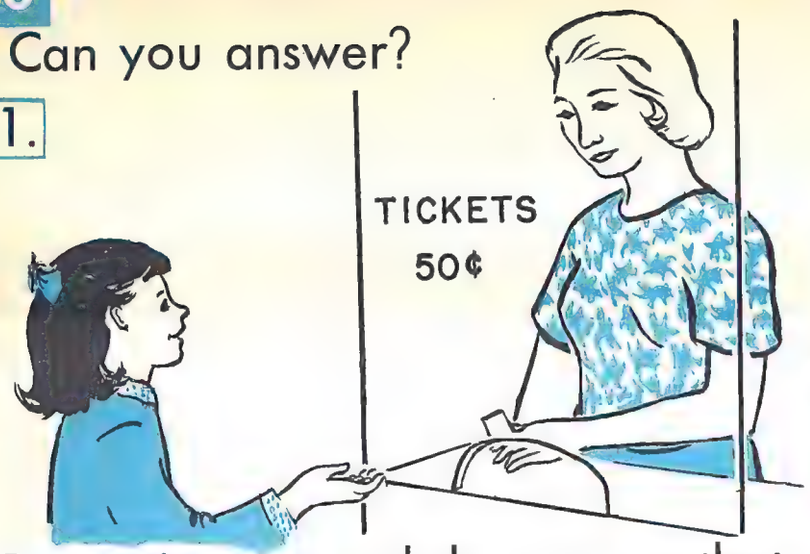
b. A half dozen = ___ eggs.

12. Tom's dog $8\frac{1}{2}$ pounds | Jane's dog 9 pounds

Which dog weighs more? ___

Can you answer?

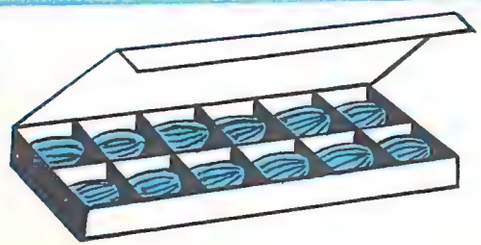
1.



Put a ring around the money that Sally can use to buy a ticket for 50¢.

3 dimes 2 quarters 5 nickels

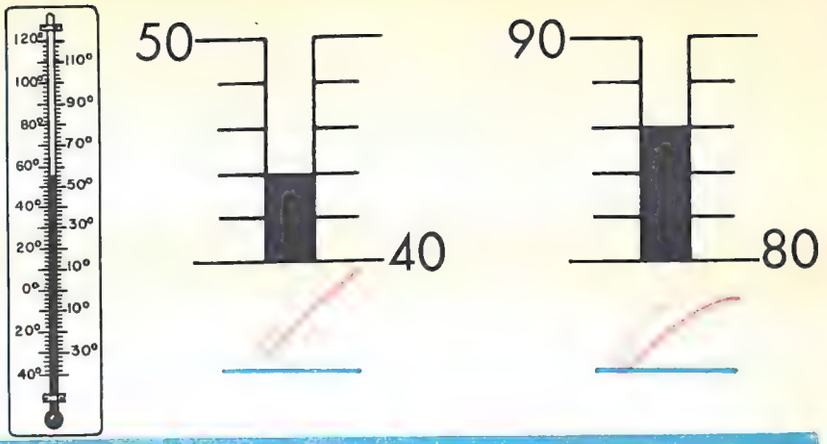
2.



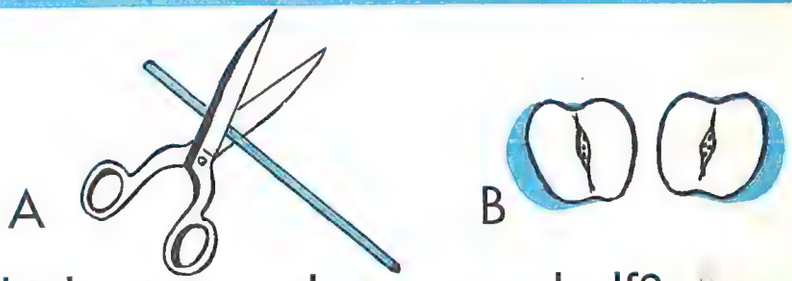
Yes or No

Is a dozen 6 + 6?	Yes	No
Is a dozen 2 sixes?	Yes	No
Is a dozen 6 twos?	Yes	No
Is half a dozen 2 fours?	Yes	No
Is half a dozen 3 twos?	Yes	No

3.



4.



Which picture shows one half? ____

5.

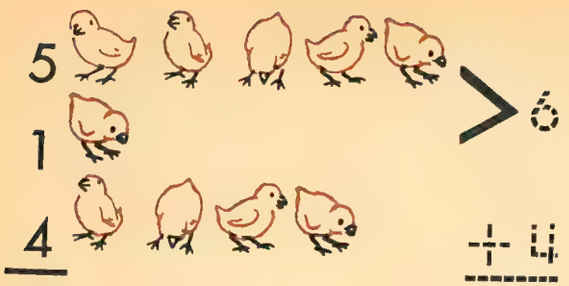
a. The number after 159 is ____.

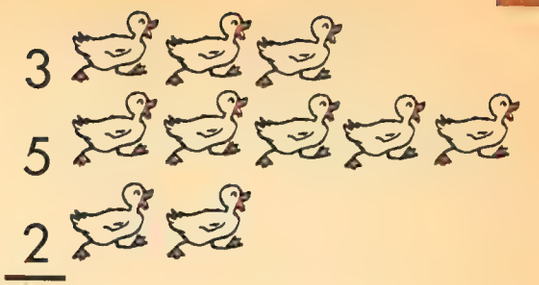
b. The number before 170 is ____.

c. What number comes between 129 and 131? ____

d. The number 109 means ____ hundred ____ tens ____ ones.

Testing important topics presented in this book. Test includes coin equivalents; the dozen; reading temperature on thermometers; half of a whole; number sequence and place value in the number system.

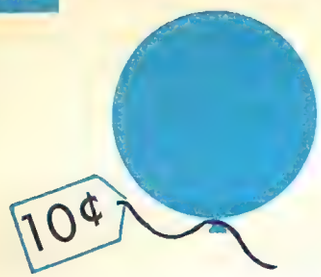




Column addition with sums of 10 or less. In class give practice on adding a **seen** number to a **thought-of** number as suggested on page 112.

1 6 3	2 2 6	3 2 4	6 0 3	2 5 1	4 3 3	2 4 4	7 0 3	2 3 3	5 2 3	1 7 1	6 0 4
5 0 4	1 3 6	2 1 7	2 3 2	3 5 1	3 0 7	6 1 3	1 0 8	1 3 2	5 3 1	4 0 6	5 0 5
3 1 6	5 2 2	1 5 4	1 2 7	2 1 4	4 2 4	4 1 5	8 0 1	1 4 5	3 2 5	4 2 3	2 3 5

Subtraction concept: How much more money is needed? In each picture the children see how much the article costs; count the pennies shown in the hand; and subtract the amount shown from the cost. They also think (as in problem 1): 5¢ + ____ ¢ = 10¢.

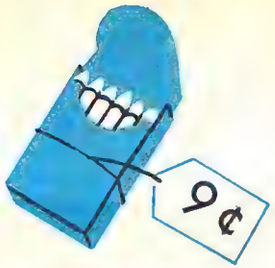


The balloon costs ____ ¢.

I have only ____ ¢.

I still need ____ ¢.

5 ¢ + 5 ¢ = 10 ¢



The box costs ____ ¢.

I have only ____ ¢.

I still need ____ ¢.

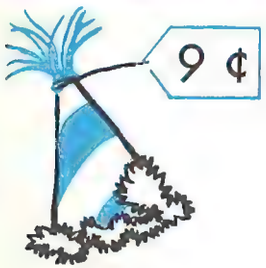
1 ¢ + ____ ¢ = 9 ¢

The bank costs ____ ¢.

I have only ____ ¢.

I still need ____ ¢.

7 ¢ + ____ ¢ = 10 ¢



The party hat costs ____ ¢.

I have only ____ ¢.

I still need ____ ¢.

8 ¢ + ____ ¢ = 9 ¢

The book costs ____ ¢.

I have only ____ ¢.

I still need ____ ¢.

9 ¢ + ____ ¢ = 10 ¢

The heart costs ____ ¢.

I have only ____ ¢.

I still need ____ ¢.

4 ¢ + ____ ¢ = 9 ¢

Buying food at a school cafeteria. Children are taught to read the food price chart and find the total cost of lunches. If desired, the teacher may let the children set up a play cafeteria in the classroom. Children can use mounted pictures of foods.

milk	5 ¢	roll	3 ¢
soup	7 ¢	apple	4 ¢
meat ball	10 ¢	cake	6 ¢

1. How much does each cost?

roll	____ ¢	soup	____ ¢	cake	____ ¢
meat ball	____ ¢	apple	____ ¢	milk	____ ¢

2. How much do both cost?

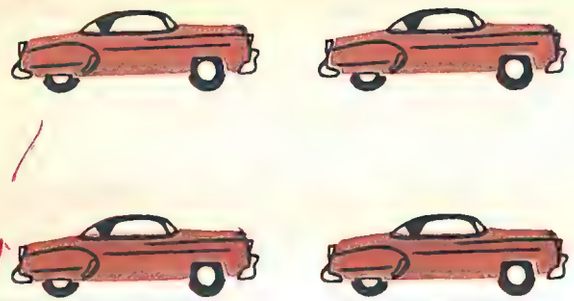
roll	____ ¢	roll	____ ¢	apple	____ ¢	soup	____ ¢
milk	____ ¢	apple	____ ¢	milk	____ ¢	roll	____ ¢
both	____ ¢	both	____ ¢	both	____ ¢	both	____ ¢

3. Write one thing a child can buy for:

____

____

____

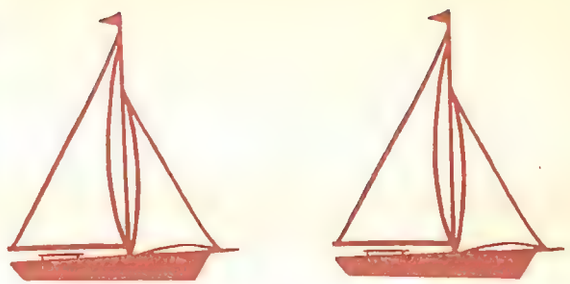


2 twos are 4.

Half of 4 is 2.

2 fours are 8.

Half of 8 is 4.

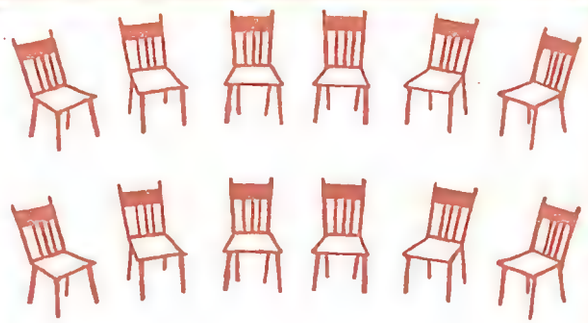


2 ones are 2.

Half of 2 is 1.

2 threes are 6.

Half of 6 is 3.



2 sixes are 12.

Half of 12 is 6.

2 fives are 10.

Half of 10 is 5.

2 fours are 8.

8 is 2 fours.

Half of 8 is 4.

2 twos are 4.

4 is 2 twos.

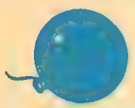
Half of 4 is 2.

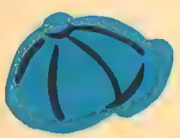
2 threes are 6.

6 is 2 threes.

Half of 6 is 3.

Readiness for the multiplication concept and the related concept of half of a group. Show children that finding 2 twos is like adding 2 + 2. To find half of the total group, the children cover one of the two equal groups.

	24	16	38	61	14
	70	80	50	30	05
	178	318	127	781	287
	025	502	250	205	520
	349	$3.49	$3.94		$4.93

	11		49
	12		102 130
	2 ½		15 $4.50
	twenty-four 24		one hundred fifteen 115
	two hundred 200		three dollars $3.00

Exploratory Achievement Test, Part I, Knowledge of Numbers. See the Teachers Edition for detailed instructions for giving, scoring, and interpreting Part I. This is the first of the five-part achievement test provided in this book.

Jane wants to buy the  .

It costs 10 cents.

Look at Jane's money.

Jane has:

11  s or 11 cents

5  s or 30 cents

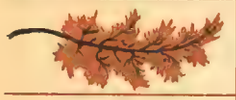
3  s or 15 cents

Count all the money. Jane has 70 cents in all.

Has Jane all the money she needs to buy the  ? Yes No

Jane needs 75 cents in all. Which of these does she need?

Counting money in a social situation. If possible, provide the real coins which duplicate those in the lesson so that children can have firsthand experience in dealing with money and counting the money needed to make a purchase.



Bob had 3 cents. His mother gives him 2 cents. How many cents has he in all?

____ cents

In a room are 4 seats in a row. How many seats are there in 2 rows?

____ seats

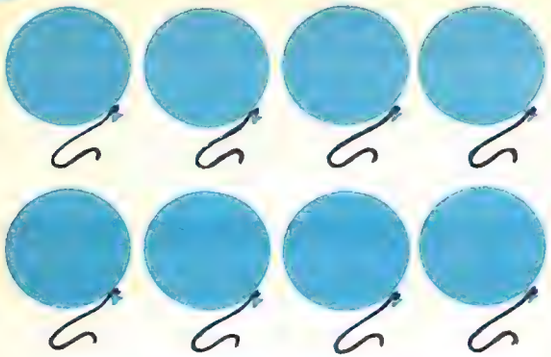
John had 5 kittens. He gave 2 kittens to Ann. How many kittens did he have left?

____ kittens

Mother has 6 apples for 3 children. How many apples has she for each child?

____ apples

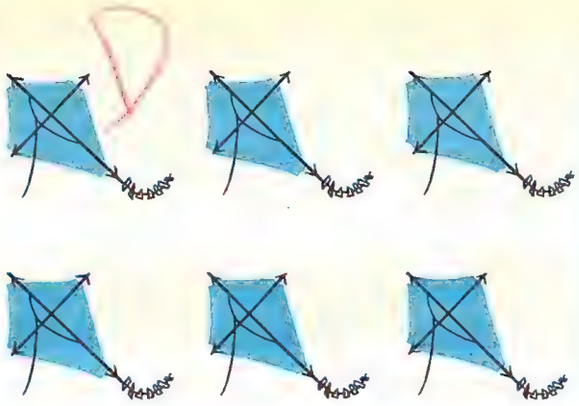
Exploratory Achievement Test, Part II, Showing How Many (Story Problems). See the Teachers Edition for detailed instructions for giving, scoring, and interpreting Part II. This is the second of the five-part achievement test provided in this book.



2 fours are 8.

8 is 2 fours.

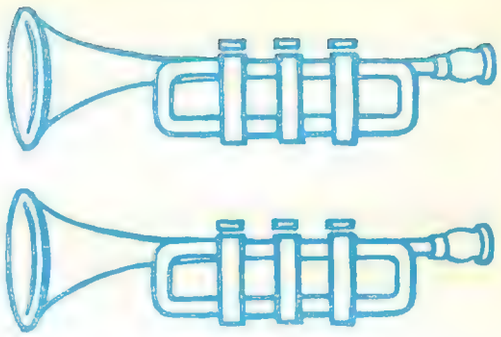
Half of 8 is 4.



2 threes are 6.

6 is 2 threes.

Half of 6 is 3.



2 ones are 2.

2 is 2 ones.

Half of 2 is 1.

2 twos are 4.

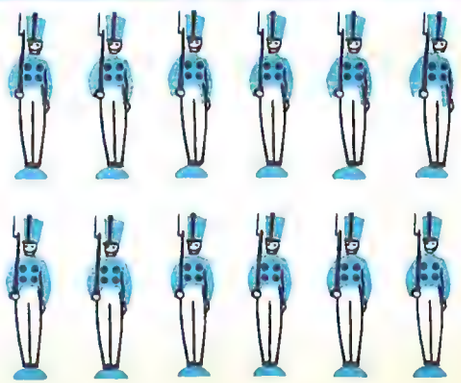
4 is 2 twos.

Half of 4 is 2.

2 fives are 10.

10 is 2 fives.

Half of 10 is 5.



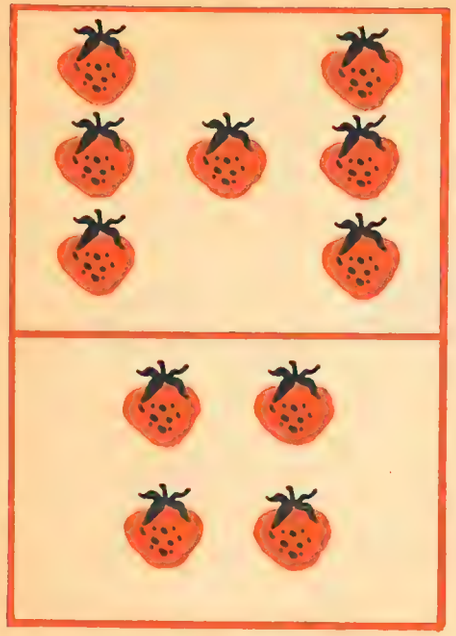
2 sixes are 12.

12 is 2 sixes.

Half of 12 is 6.

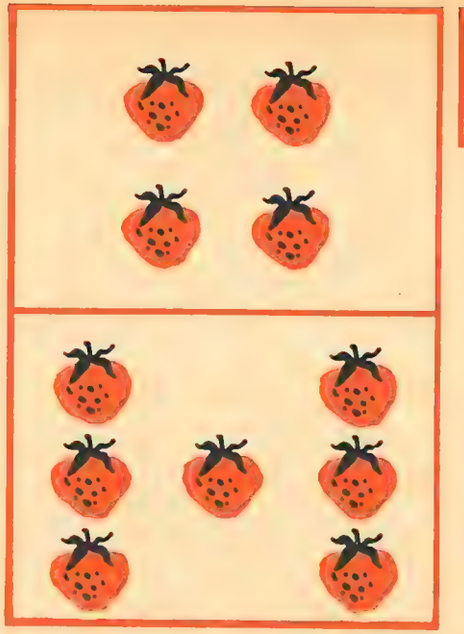
Readiness for the multiplication concept, continued. Show children that finding 2 fours is like adding 4 + 4. To find half of a total number, cover one of the two equal groups. Practice in class with other objects. At their seats the children will fill in the missing numbers.

Visualizing related facts $7 + 4 = 11$, $4 + 7 = 11$, $11 - 7 = 4$, and $11 - 4 = 7$. Children talk about each grouped picture; dramatize the story in each picture; make a disk picture for each story; then write the missing answers.



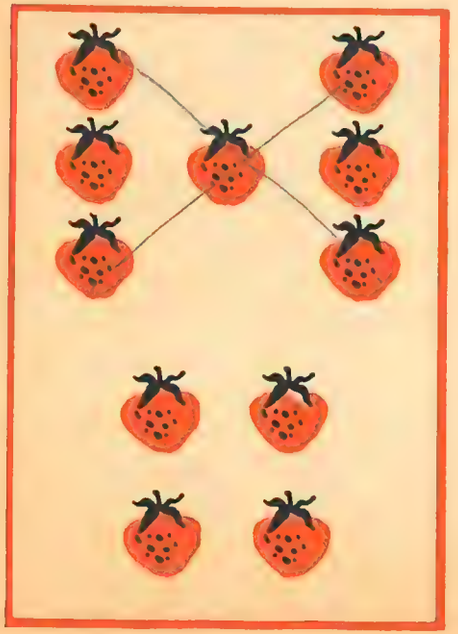
11 is 7 + 4

7	8	7	7
+4	+3	+1	+4
11	11	8	11
1	7	3	7
+7	+4	+8	+4
8	11	11	11



11 is 4 + 7

4	6	4	2
+7	+2	+7	+6
11	8	11	8
7	4	5	4
+4	+7	+5	+7
11	11	10	11

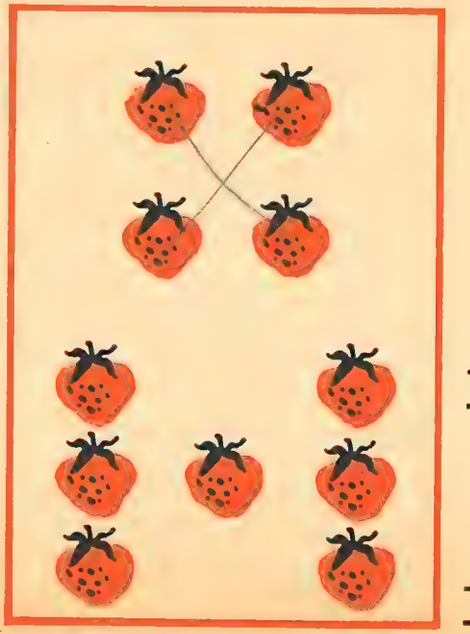


4 s in all

Cross out 7 s.

4 s left

11	11	8	11
−7	−8	−7	−7
4	3	1	4
8	11	11	11
−1	−7	−3	−7
7	4	1	4



11 s in all

Cross out 4 s.

7 s left

11	8	11	8
−4	−6	−4	−2
7	2	7	6
11	11	10	11
−7	−4	−5	−4
4	7	5	7

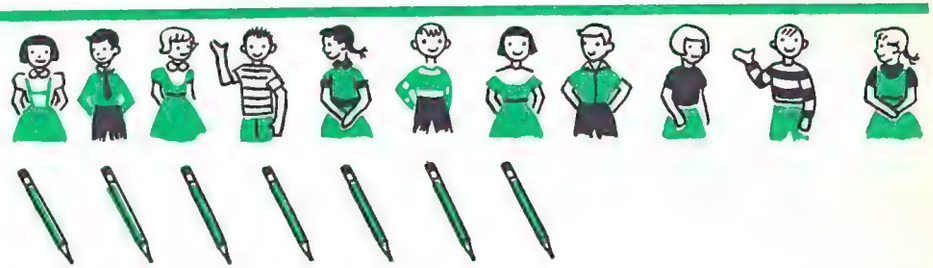
7 + 4 11	7 + 4	8 + 2	7 + 4	2 + 8	7 + 4
4 + 7 11	3 + 6	4 + 7	6 + 3	5 + 5	4 + 7
7 + 4	4 + 7	4 + 4	4 + 7	7 + 4	4 + 7

Toys in the top row ___

Toys in the bottom row ___

Toys in all ___

11 − 7 4	11 − 7	10 − 8	11 − 7	10 − 2	11 − 7
11 − 4 7	9 − 3	11 − 4	9 − 6	10 − 5	11 − 4
11 − 7	11 − 4	8 − 4	11 − 4	11 − 7	11 − 4



How many children in all? ___

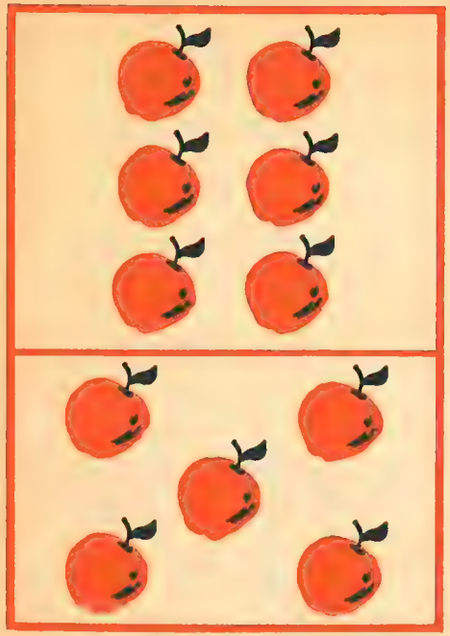
How many ✎s in all? ___

Each child should have a ✎.

How many more ✎s are needed? ___

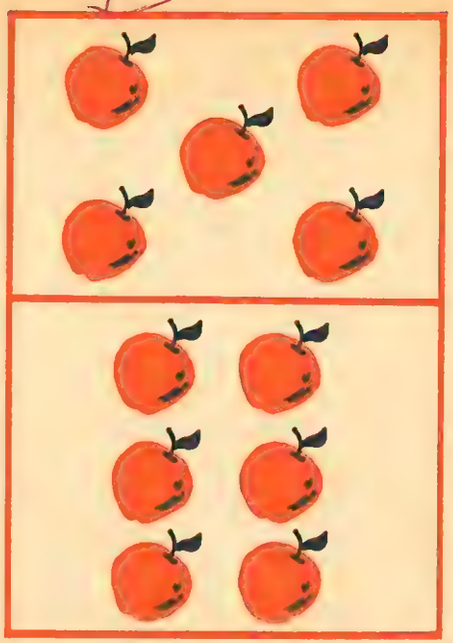
Practice on the four new related number facts and use of the new facts in story problems. Children will use the pictures to supply the missing numbers in the problems.

B



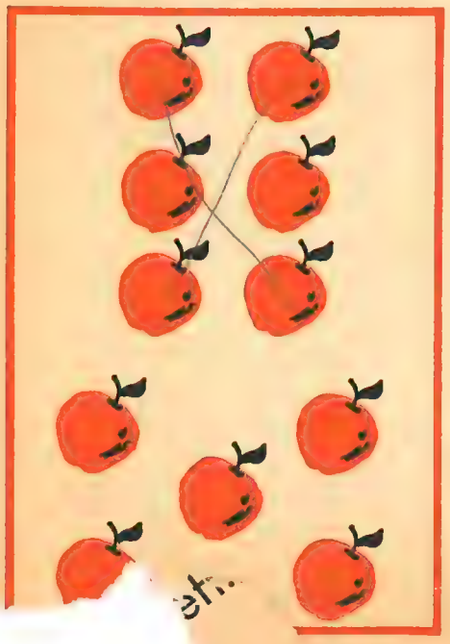
11 is 6 + 5

6	5	3	6
+5	+3	+5	+5
11	8	8	11
7	6	2	6
+2	+5	+7	+5
9	11	9	11



11 is 5 + 6

5	3	5	6
+6	+6	+6	+3
11	9	11	9
7	5	1	5
+1	+6	+7	+6
8	11	8	11

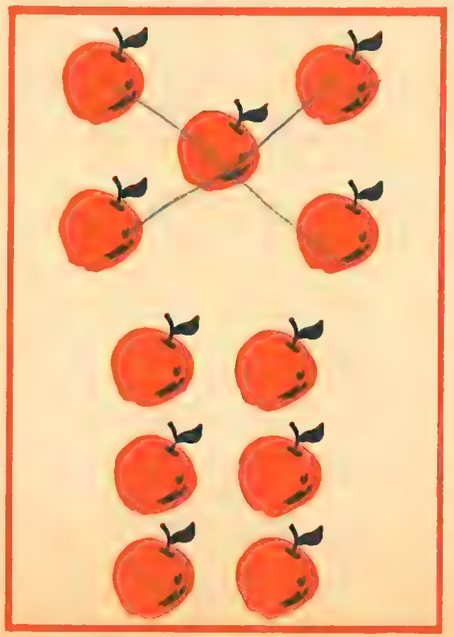


Apples in all 11

Cross out 6.

Apples left 5

11	8	8	11
−6	−5	−3	−6
5	3	5	5
9	11	9	11
−7	−6	−2	−6
2	5	7	5



Apples in all 11

Cross out 5.

Apples left 6

11	9	11	9
−5	−3	−5	−6
6	6	6	3
8	11	8	11
−7	−5	−1	−5
1	6	7	6

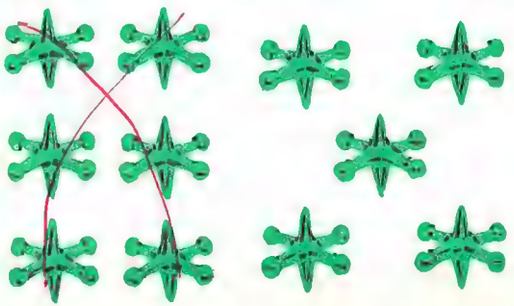
Visualizing related facts $6 + 5 = 11$, $5 + 6 = 11$, $11 - 6 =$ [illegible], and $11 - 5 = 6$. Children talk about each grouped picture; dramatize the story in each picture; make a disk picture for each story; then write the missing answers.

6 + 5 11	6 + 5	3 + 7	6 + 5	7 + 3	6 + 5
5 + 6 11	6 + 2	5 + 6	2 + 6	5 + 6	5 + 5
5 + 6	6 + 5	4 + 4	5 + 6	6 + 5	5 + 6

___ s in the short pile
___ s in the tall pile
___ s in all

___ s in the tall pile
___ s in the short pile
___ s in all

11 − 6 5	11 − 6	10 − 3	11 − 6	10 − 7	11 − 6
11 − 5 6	8 − 6	11 − 5	8 − 2	11 − 5	10 − 5
11 − 5	11 − 6	8 − 4	11 − 5	11 − 6	11 − 5



___ jacks in all

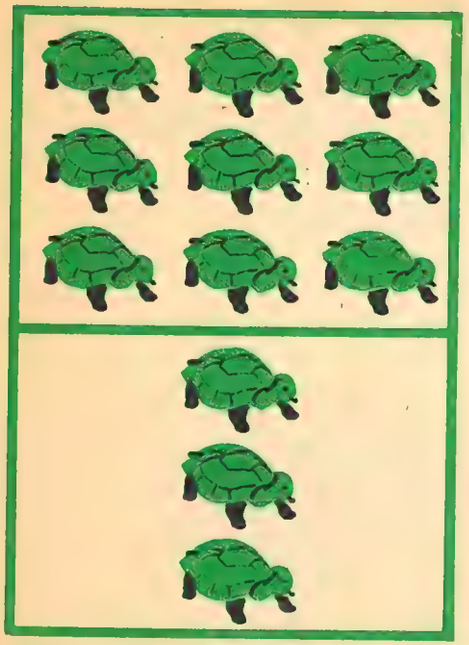
Mary picks up 6 jacks.

Cross out these 6 jacks.

You now see ___ jacks l

Practice on the four new related number facts and use of the new facts in story problems. Children will use the pictures to supply the missing numbers in the problems.

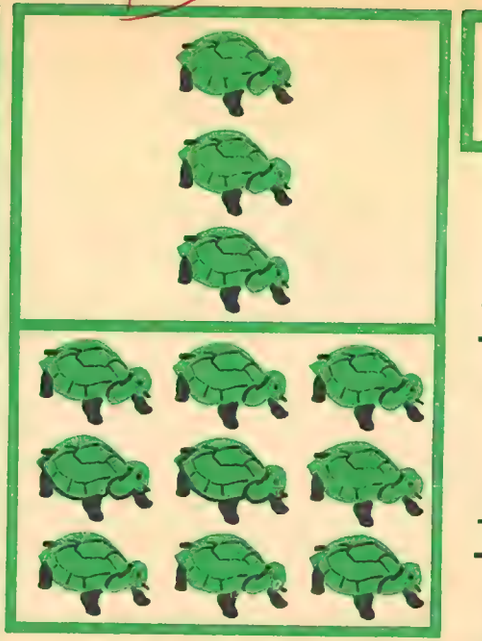
Visualizing related facts $9 + 3 = 12$, $3 + 9 = 12$, $12 - 9 = 3$, and $12 - 3 = 9$. Children talk about each grouped picture; dramatize the story in each picture; make a disk picture for each story; then write the missing answers.



12 is 9 + 3

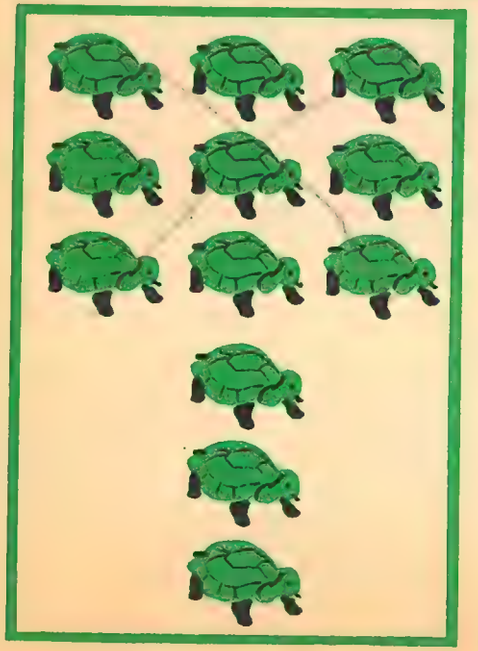
9	4	9	5
+3	+5	+3	+4
12	9	12	9
8	9	1	9
+1	+3	+8	+3
9	12	9	12

B



12 is 3 + 9

3	4	6	3
+9	+6	+4	+9
12	10	10	12
3	3	7	3
+7	+9	+3	+9
10	12	10	12

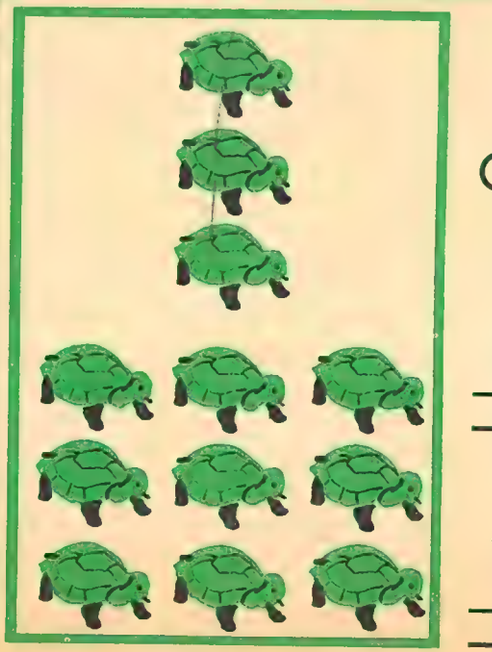


___ s in all

Cross out 9 s.

___ s left

12	9	12	9
−9	−4	−9	−5
3	5	3	4
9	12	9	12
−8	−9	−1	−9
1	3	8	3



___ s in all

Cross out 3 s.

___ s left

12	10	10	12
−3	−4	−6	−3
9	6	4	9
10	12	10	12
−3	−3	−7	−3
7	9	3	9

9 + 3 = 12	9 + 3 = 12	2 + 8 = 10	7 + 4 = 11	5 + 3 = 8	9 + 3 = 12
3 + 9 = 12	3 + 9 = 12	4 + 7 = 11	3 + 5 = 8	3 + 9 = 12	8 + 2 = 10
9 + 3 = 12	3 + 9 = 12	8 + 3 = 11	3 + 9 = 12	3 + 8 = 11	9 + 3 = 12

Books in the tall pile 4

Books in the short pile 2

Books in all 12

Books in the short pile 2

Books in the tall pile 4

Books in all 12

12 − 9 = 3	12 − 9 = 3	10 − 2 = 8	11 − 7 = 4	8 − 5 = 3	12 − 9 = 3
12 − 3 = 9	12 − 3 = 9	11 − 4 = 7	8 − 3 = 5	12 − 3 = 9	10 − 8 = 2
12 − 9 = 3	12 − 3 = 9	11 − 8 = 3	12 − 3 = 9	11 − 3 = 8	12 − 9 = 3

12 ✿s in all

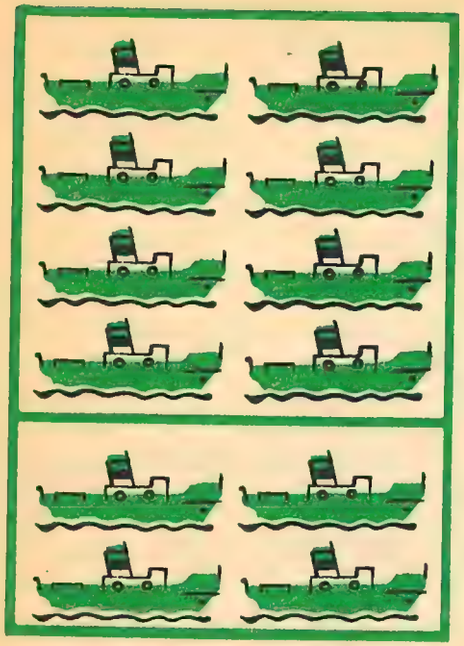
Mary takes away 3 ✿s.

Cross out these 3 ✿s.

You now see 9 ✿s left.

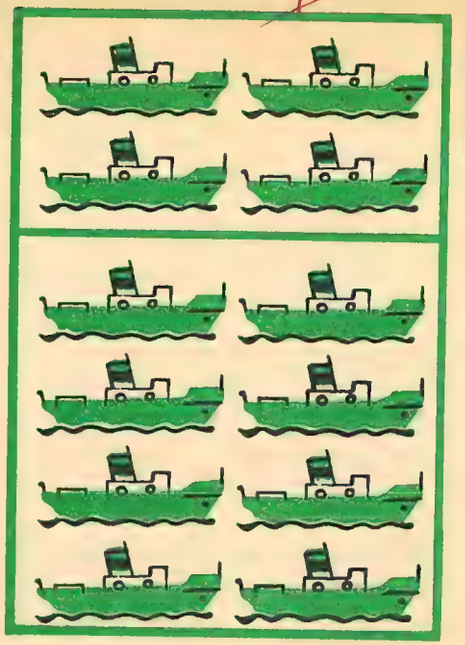
Practice on the four new related number facts and use of the new facts in story problems. Children use the pictures to supply the missing numbers in the problems.

B



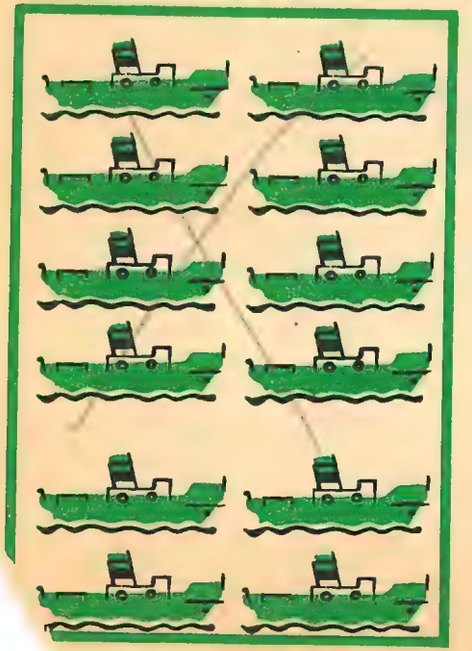
12 is 8 + 4

8	8	2	8
+4	+2	+8	+4
12	10	10	12
1	8	9	8
+9	+4	+1	+4
10	12	10	12



12 is 4 + 8

4	6	4	2
+8	+2	+8	+6
12	8	12	8
7	4	1	4
+1	+8	+7	+8
8	12	8	12

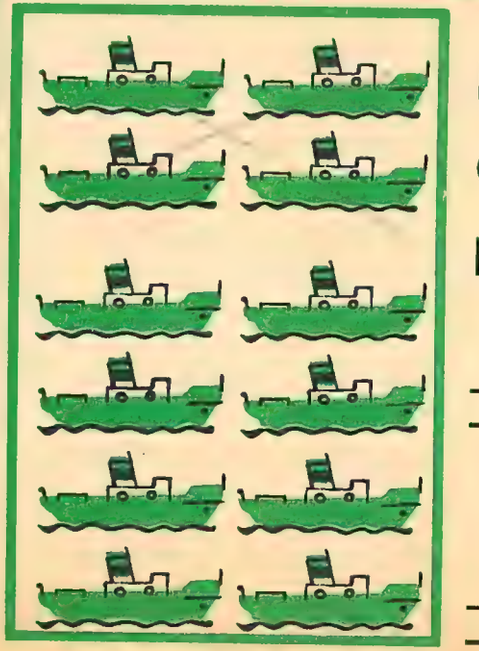


Boats in all 12

Cross out 8.

Boats left 4

12	10	10	12
−8	−8	−2	−8
4	2	8	4
10	12	10	12
−1	−8	−9	−8
9	4	1	4



Boats in all ___

Cross out 4.

Boats left ___

12	8	12	8
−4	−6	−4	−2
8	2	8	6
8	12	8	12
−7	−4	−1	−4
1	8	7	8

...acts 8 + 4 = 12, 4 + 8 = 12, 12 − 8 = ... = 8. Children talk about each grouped picture; dramatize the story in each picture; make a disk picture for each story; then write the missing answers.

8 + 4 12	8 + 4 12	9 + 2 11	8 + 1 9	8 + 4 12	4 + 5 9
4 + 8 12	4 + 8 12	1 + 8 9	2 + 9 11	5 + 4 9	4 + 8 12
8 + 4 12	4 + 8 12	1 + 9 10	8 + 4 12	9 + 1 10	4 + 8 12

Black s 8

White s 4

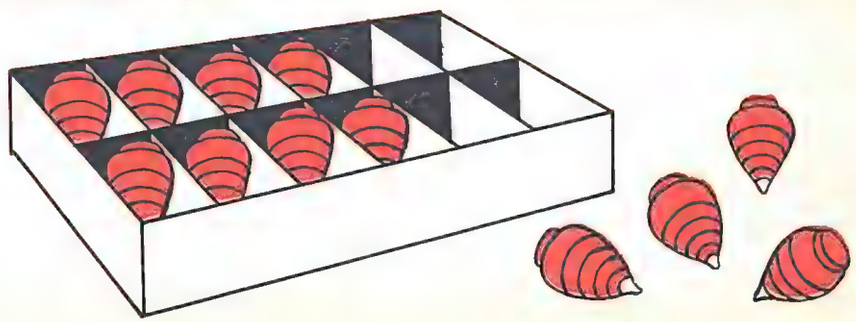
12 s in all

White s 4

Black s 8

12 s in all

12 − 8 4	12 − 8 4	11 − 9 2	9 − 8 1	12 − 8 4	9 − 4 5
12 − 4 8	12 − 4 8	9 − 1 8	11 − 2 9	9 − 5 4	12 − 4 8
12 − 8 4	12 − 4 8	10 − 1 9	12 − 8 4	10 − 9 1	12 − 4 8



This box holds 12 tops in all.

Jack took out 4 tops.

8 tops are left in the box.

Practice on the four new related number facts and use of the new facts in story problems. Children will use the pictures to supply the missing numbers in the problems.

Visualizing related facts $7 + 5 = 12$, $5 + 7 = 12$, $12 - 7 = 5$, and $12 - 5 = 7$. Children talk about each grouped picture; dramatize the story in each picture; make a disk picture for each story; then write the missing answers.

12 is 7 + 5

7	4	6	7
+5	+6	+4	+5
12	10	10	12
4	7	5	7
+5	+5	+4	+5
8	12	8	12

12 is 5 + 7

5	3	5	7
+7	+7	+7	+3
12	10	12	10
6	5	3	5
+3	+7	+6	+7
10	12	11	12

Birds in all 12

Cross out 7.

Birds left 5

12	10	10	12
−7	−4	−6	−7
5	6	4	5
9	12	9	12
−4	−7	−5	−7
5	5	4	5

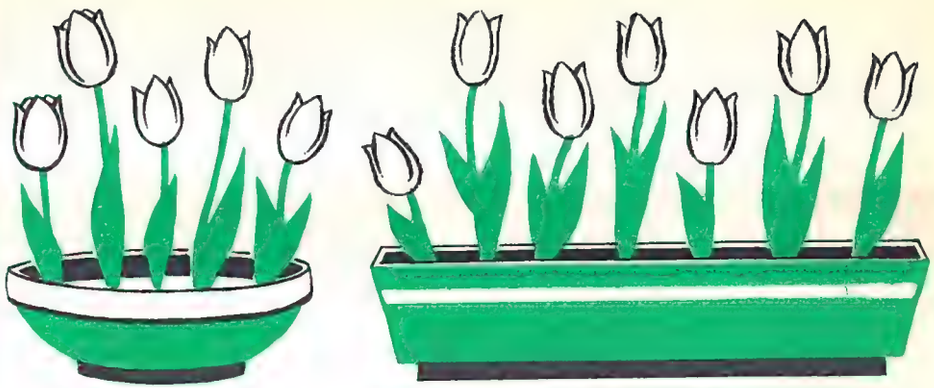
Birds in all 12

Cross out 5.

Birds left 7

12	10	12	10
−5	−3	−5	−7
7	8	7	4
9	12	9	12
−6	−5	−3	−5
3	7	6	7

7 + 5 12	7 + 5 12	9 + 2 11	7 + 5 12	2 + 9 10	7 + 5 12
5 + 7 12	3 + 8 11	5 + 7 12	8 + 3 11	1 + 7 8	5 + 7 12
7 + 5 12	5 + 7 12	7 + 1 8	5 + 7 12	7 + 5 12	5 + 6 11

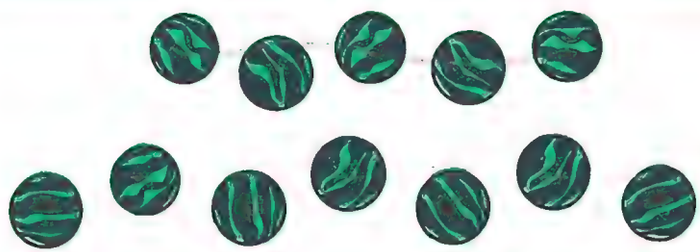


Flowers in the little dish 5

Flowers in the big dish 7

Flowers in all 12

12 − 7 5	12 − 7 5	11 − 9 3	12 − 7 5	11 − 2 9	12 − 7 5
12 − 5 7	11 − 3 8	12 − 5 7	11 − 8 3	8 − 1 7	12 − 5 7
12 − 7 5	12 − 5 7	8 − 7 1	12 − 5 7	12 − 7 5	11 − 5 6



Jim had 12 marbles in all.

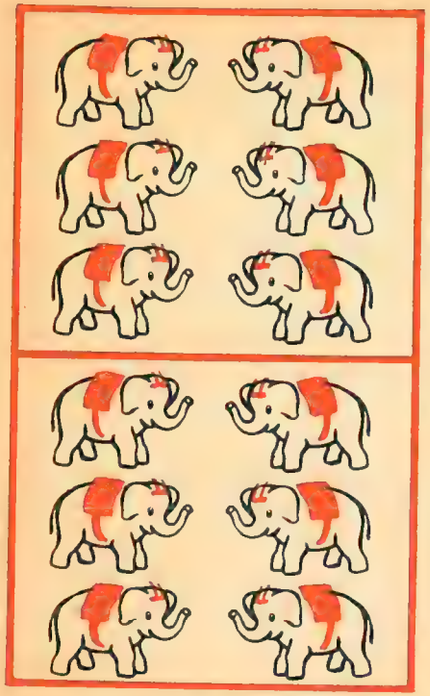
He gives Jack 5 marbles.

Cross out these 5 marbles.

Jim will have 7 marbles left.

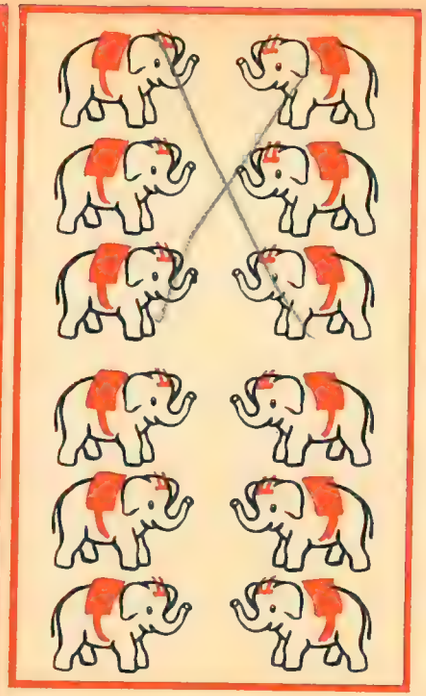
Practice on the four new related number facts and use of the new facts in story problems. Children use the pictures to supply the missing numbers in the problems.

Visualizing related facts $6 + 6 = 12$ and $12 - 6 = 6$. Children talk about each grouped picture; dramatize the story in each picture; make a disk picture for each story; then write the missing answers.



$12 = 6 + \_\_$

$6 + 6 = 12$	$9 + 1 = 10$	$1 + 9 = 10$	$6 + 6 = 12$
$8 + 2 = 11$	$6 + 6 = 12$	$2 + 8 = 10$	$6 + 6 = 12$



__ s in all 12

Cross out 6 s.

__ s left 6

$12 - 6 = 6$	$10 - 9 = 1$	$10 - 1 = 9$	$12 - 6 = 6$
$10 - 8 = 2$	$12 - 6 = 6$	$10 - 2 = 8$	$12 - 6 = 6$

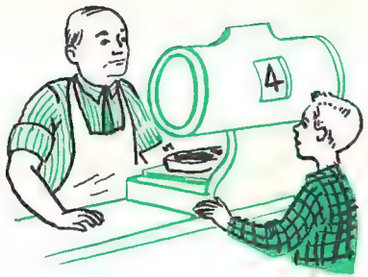
$6 + 6 = 12$	$6 + 6 = 12$	$5 + 5 = 10$	$6 + 5 = 11$	$6 + 6 = 12$	$3 + 5 = 8$
$6 + 6 = 12$	$5 + 6 = 11$	$7 + 4 = 11$	$4 + 7 = 11$	$6 + 5 = 11$	$6 + 6 = 12$
$3 + 8 = 11$	$6 + 6 = 12$	$8 + 3 = 11$	$7 + 4 = 11$	$6 + 6 = 12$	$4 + 7 = 11$

$12 - 6 = 6$	$12 - 6 = 6$	$10 - 5 = 5$	$11 - 6 = 5$	$12 - 6 = 6$	$8 - 3 = 5$
$12 - 6 = 6$	$11 - 5 = 6$	$11 - 7 = 4$	$11 - 4 = 7$	$11 - 6 = 5$	$12 - 6 = 6$
$11 - 3 = 8$	$12 - 6 = 6$	$11 - 8 = 3$	$11 - 7 = 4$	$12 - 6 = 6$	$11 - 4 = 7$

Can you answer?

1.

A 

B 

A. Bob weighs how many pounds? ____

Sally weighs 50 pounds.

Who weighs more? ____

B. Dick's mother wants 5 pounds of meat. How many more pounds does Dick need to buy? ____

2.

Sally and Mary each get the same. How many pieces in all? ____

Each girl gets $\frac{1}{2}$.

Sally gets ____. Mary gets ____.

3.

160	182	106
136	163	128

Which number is largest? ____

Which number is smallest? ____

4. How many inches in 1 foot? ____

5. How many pints in 1 quart? ____

6. How many are in 1 dozen? ____

7. 

2 fours are ____.

Half of 8 is ____.

8. 1 nickel = ____ pennies.

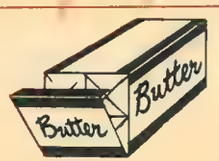
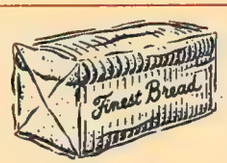
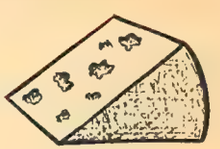
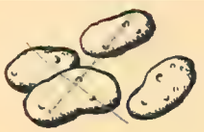
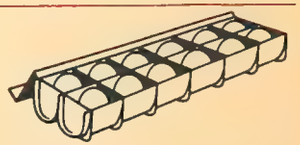
1 dime = ____ nickels.

1 quarter = ____ nickels.

1 dollar = ____ quarters.

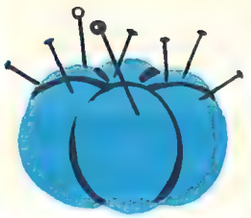
Testing important topics presented in this book. Test includes inches, foot, pints, quart, dozen; multiplication concept; coin equivalents; weight; half of a group; size of numbers; review of measurement.

Exploratory Achievement Test, Part III, Vocabulary of Arithmetic. See the Teacher's Edition for detailed instructions for giving, scoring, and interpreting Part III. This is the third of the five-part achievement test provided in this book.

	B	O	+	−	¢
					
	d	ʊ	T	$	C
					
	P.M.	PT.	OZ.	HR.	A.M.
					
					
					
	 days		December 		
	 minutes		 inches		

Counting coins in a social situation. First count the children's money. These two children want to buy a birthday gift and a birthday card for their mother. The children in the class will cover the coins needed to purchase each gift and count the money left.

The children have ____ cents.



10 ¢

____ ¢ left

50 ¢

____ ¢ left

20 ¢

____ ¢ left

25 ¢

____ ¢ left

15 ¢

____ ¢ left

40 ¢

____ ¢ left

30 ¢

____ ¢ left

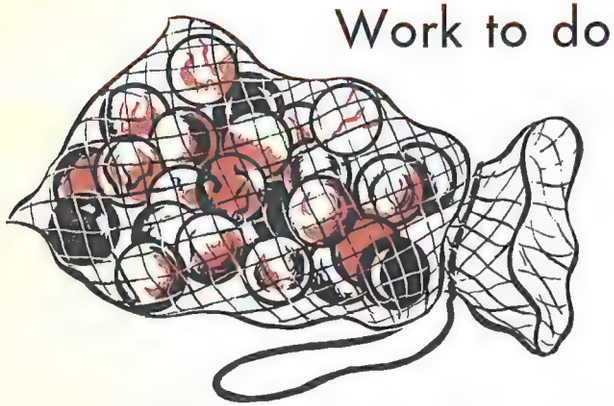
5 ¢

____ ¢ left

Exploratory Achievement Test, Part IV, Everyday Uses of Arithmetic. This part also includes the first two questions on page 142. See the Teachers Edition for detailed instructions for giving, scoring, and interpreting this fourth part of the five-part achievement test.

JULY						
S	M	T	W	TH	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Work to do alone



___ s rolled out of the  .

How many fours? ___

2 fours are ___.

Half of 8 is ___.

Jane is playing jacks.
She is playing the twos.
How many jacks in all? ___
Put a ring around each two jacks.

How many times must she pick up two? ___

6 is how many twos? ___

Exploratory Achievement Test, Part IV, Continued. Also Story Problems Based on Multiplication and Division Readiness Concepts. In the seat lesson below the two test questions, the children will use the pictures to supply the missing numbers. They will then write the missing numbers.

5 and 3 are ___.

2 and 4 are ___.

$$\begin{array}{r} 2 \\ +\,4 \\ \hline \end{array} \qquad \begin{array}{r} 4 \\ +\,1 \\ \hline \end{array} \qquad \begin{array}{r} 1 \\ +\,5 \\ \hline \end{array} \qquad \begin{array}{r} 2 \\ +\,3 \\ \hline \end{array} \qquad \begin{array}{r} 3 \\ +\,4 \\ \hline \end{array} \qquad \begin{array}{r} 5 \\ +\,3 \\ \hline \end{array}$$

6 take away 3 = ___

5 take away 4 = ___

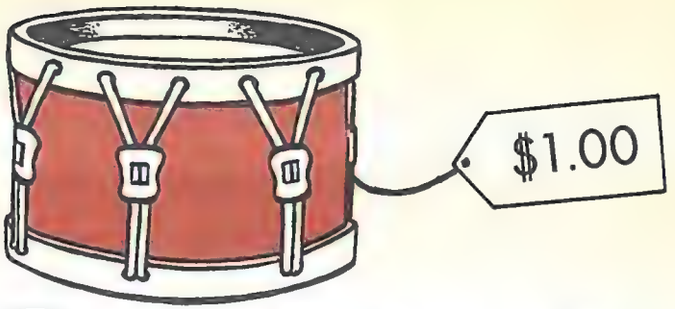
$$\begin{array}{r} 5 \\ -\,2 \\ \hline \end{array} \qquad \begin{array}{r} 6 \\ -\,1 \\ \hline \end{array} \qquad \begin{array}{r} 4 \\ -\,4 \\ \hline \end{array} \qquad \begin{array}{r} 7 \\ -\,3 \\ \hline \end{array} \qquad \begin{array}{r} 6 \\ -\,4 \\ \hline \end{array} \qquad \begin{array}{r} 8 \\ -\,2 \\ \hline \end{array}$$

2 twos are ___.

2 fives are ___.

Exploratory Achievement Test, Part V, Simple Computations. See the Teachers Edition for detailed instructions for giving, scoring, and interpreting Part V. This concludes the five parts of the achievement test provided in this book. The total score of the five parts shows achievement.

Jack wants to buy the  .
He needs one dollar to buy it.
Here is a picture of Jack's money.



How many cents has Jack:

in _____  ? _____ cents

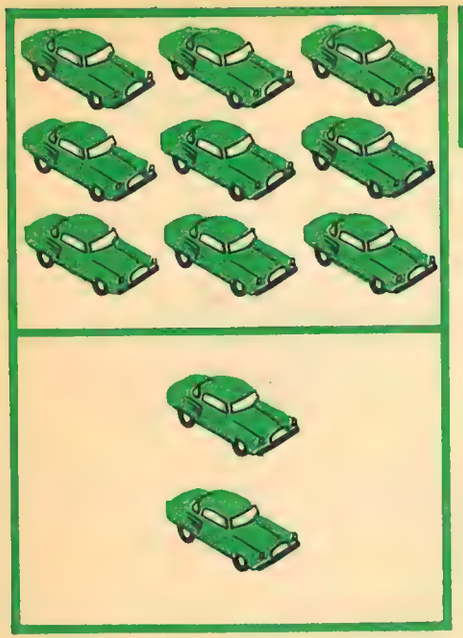
in _____  s ? _____ cents

in _____  s ? _____ cents

in _____  s ? _____ cents

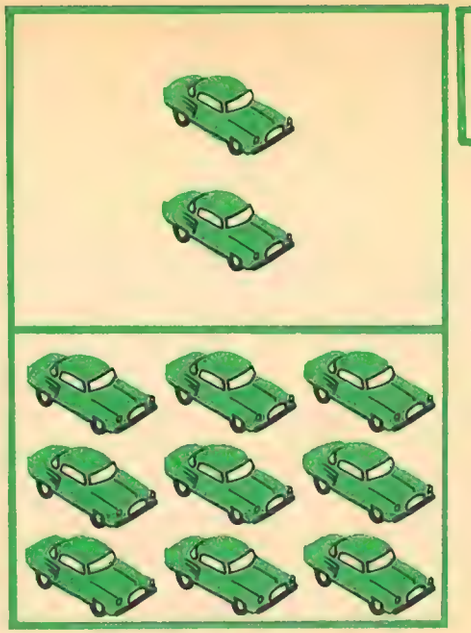
Count all of Jack's money. _____ cents Can Jack buy the  ? Yes No

Counting money in a social situation. To give children experience in counting money needed to make a purchase, if possible, provide real coins which will duplicate the coins pictured here.



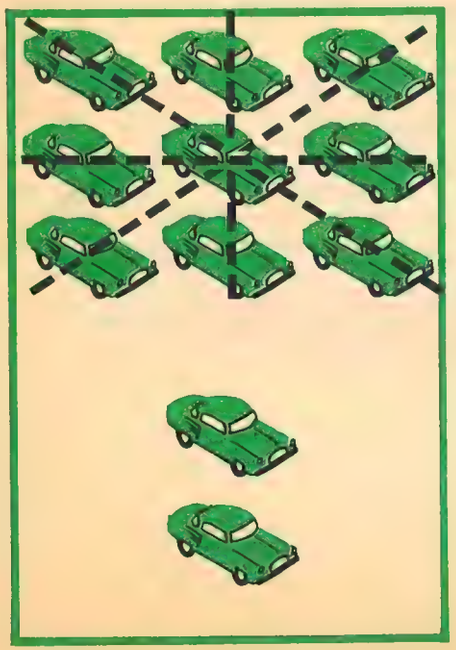
11 is 9 + 2

9	4	9	6
+2	+6	+2	+4
11			
3	9	7	9
+7	+2	+3	+2



11 is 2 + 9

2	8	2	2
+9	+2	+9	+8
11			
1	2	9	2
+9	+9	+1	+9

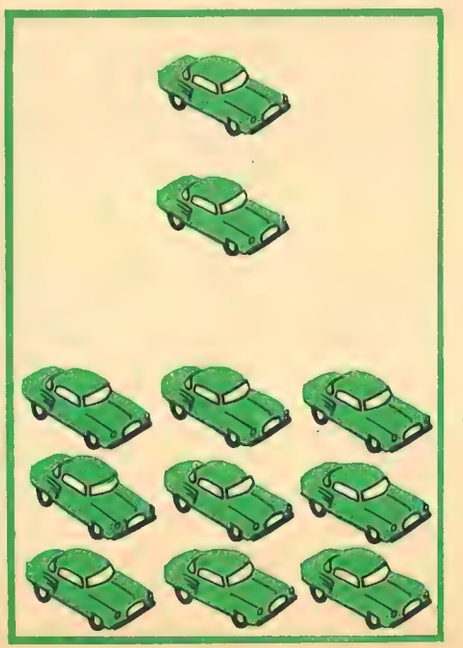


Cars in all 11

Cross out 9.

Cars left 2

11	10	11	10
−9	−4	−9	−6
2			
10	11	11	11
−3	−9	−7	−9
7			



Cars in all 11

Cross out 2.

Cars left 9

11	10	11	10
−2	−1	−2	−9
9			
11	10	10	11
−2	−8	−2	−2
9			

elated facts 9 + 2 = 11, 2 + 9 = 11, 11 − 9 = , and 11 − 2 = 9. Children talk about each grouped picture; dramatize the story in each picture; make a disk picture of each story; then write the missing answers.

9 + 2 = 11	9 + 2 = 11	3 + 6 = 9	9 + 2 = 11	1 + 9 = 10	6 + 3 = 9
2 + 9 = 11	2 + 9 = 11	9 + 1 = 10	7 + 2 = 9	2 + 9 = 11	2 + 7 = 9
9 + 2 = 11	8 + 1 = 9	2 + 9 = 11	9 + 2 = 11	1 + 8 = 9	2 + 9 = 11

Jane's bubbles 2

Jim's bubbles 9

Bubbles in all 11

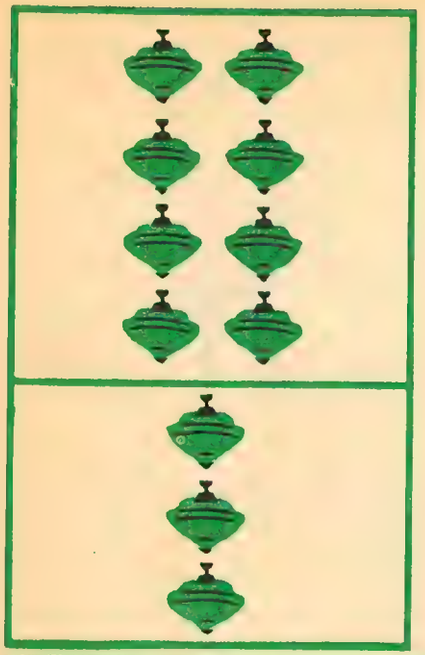
11 − 9 = 2	11 − 9 = 2	9 − 3 = 6	11 − 9 = 2	10 − 1 = 9	9 − 6 = 3
11 − 2 = 9	11 − 2 = 9	10 − 9 = 1	9 − 7 = 2	11 − 2 = 9	9 − 2 = 7
11 − 9 = 2	9 − 8 = 1	11 − 2 = 9	11 − 9 = 2	9 − 1 = 8	11 − 2 = 9

In all 11 birds were eating.

2 birds fly away.

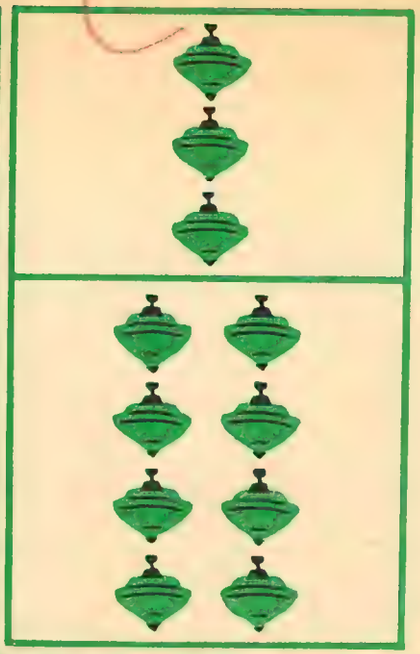
9 birds are left.

Practice on the four new related number facts and use of the new facts in story problems. Children will use the pictures to supply the missing numbers in the problems.



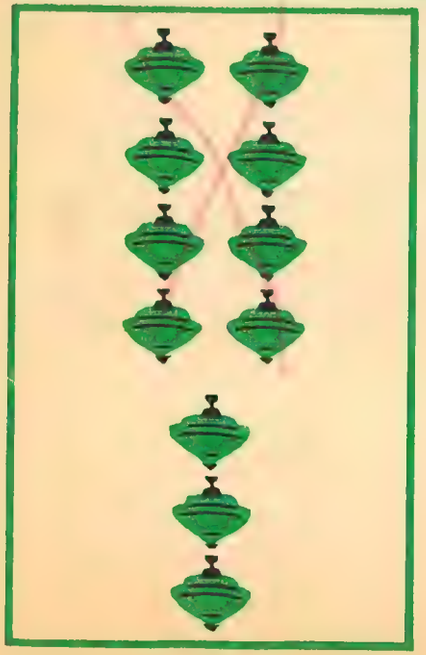
11 is 8 + 3

8	5	9	8
+3	+5	+2	+3
11			
1	2	4	8
+8	+9	+4	+3



11 is 3 + 8

3	7	2	3
+8	+2	+7	+6
11			
3	6	3	5
+8	+3	+8	+4

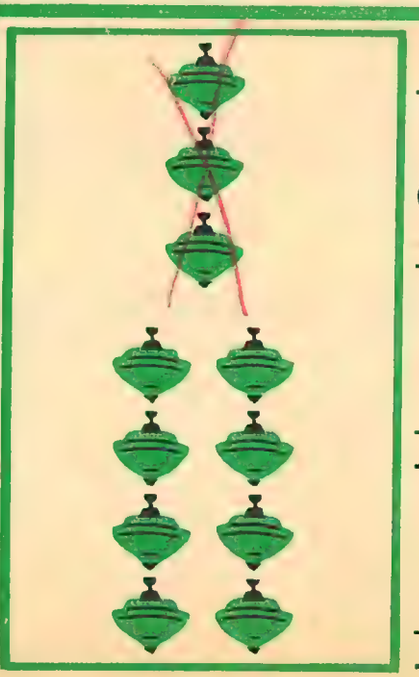


Tops in all 11

Cross out 8.

Tops left 3

11	11	11	10
−8	−2	−8	−5
3			
9	11	11	11
−1	−8	−9	−8
8	3	2	3



Tops in all 11

Cross out 3.

Tops left 8

11	9	11	9
−3	−7	−3	−2
8			
9	11	9	11
−6	−3	−3	−3

Visualizing related facts ..., 3 + 8 = 11, 11 − 8 = 3, and 11 − 3 = 8. Child... talk about each grouped picture; dramatize the story in each picture; make a disk picture for each story; then write the missing answers.

8 + 3 = 11	8 + 3 = 11	6 + 2 = 8	8 + 3 = 11	2 + 6 = 8	8 + 3 = 11
3 + 8 = 11	3 + 8 = 11	7 + 2 = 9	3 + 8 = 11	2 + 7 = 9	3 + 8 = 11
8 + 3 = 11	4 + 6 = 10	3 + 8 = 11	8 + 3 = 11	6 + 4 = 10	8 + 3 = 11

11 − 8 = 3	11 − 8 = 3	8 − 6 = 2	11 − 8 = 3	8 − 2 = 6	11 − 8 = 3
11 − 3 = 8	11 − 3 = 8	9 − 7 = 2	11 − 3 = 8	9 − 2 = 7	11 − 3 = 8
11 − 8 = 3	10 − 4 = 6	11 − 3 = 8	11 − 8 = 3	10 − 6 = 4	11 − 8 = 3

Flowers in the  8

Flowers on the table 3

Flowers in all 11

A boy had 11 toy Indians.

He took away 8 Indians.

3 Indians were left.

Practice on the four new related number facts and use of the new facts in story problems. Children will use the pictures to supply the missing numbers in the problems.

Visualizing related facts $7 + 4 = 11$, $4 + 7 = 11$, $11 - 7 = 4$, **and** $11 - 4 = 7$. Children talk about each grouped picture; dramatize the story in each picture; make a disk picture for each story; then write the missing answers.

11 is 7 + 4

7	8	7	7
+4	+3	+1	+4
11	11	8	11
1	7	3	7
+7	+4	+8	+4
8	11	9	11

11 is 4 + 7

4	6	4	2
+7	+2	+7	+6
11	8	9	7
7	4	5	4
+4	+7	+5	+7
11	11	10	11

s in all 11

Cross out 7 s.

s left 4

11	11	8	11
−7	−8	−7	−7
4	3	1	4
8	11	11	11
−1	−7	−3	−7
7	4	8	4

s in all 11

Cross out 4 s.

s left 7

11	8	11	8
−4	−6	−4	−2
7	2	7	6
11	11	10	11
−7	−4	−5	−4
4	7	5	7

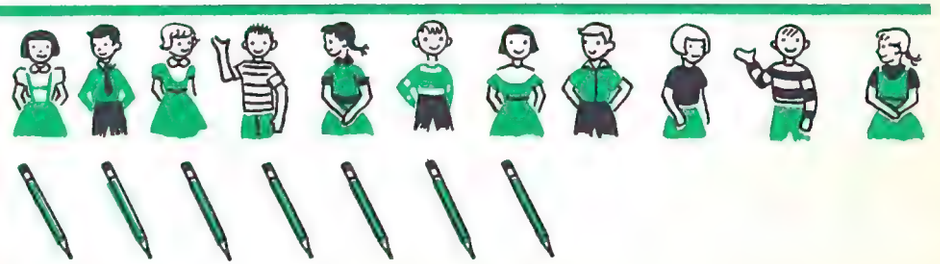
7 + 4 11	7 + 4	8 + 2	7 + 4	2 + 8	7 + 4
4 + 7 11	3 + 6	4 + 7	6 + 3	5 + 5	4 + 7
7 + 4	4 + 7	4 + 4	4 + 7	7 + 4	4 + 7

Toys in the top row ___

Toys in the bottom row ___

Toys in all ___

11 − 7 4	11 − 7	10 − 8	11 − 7	10 − 2	11 − 7
11 − 4 7	9 − 3	11 − 4	9 − 6	10 − 5	11 − 4
11 − 7	11 − 4	8 − 4	11 − 4	11 − 7	11 − 4



How many children in all? ___

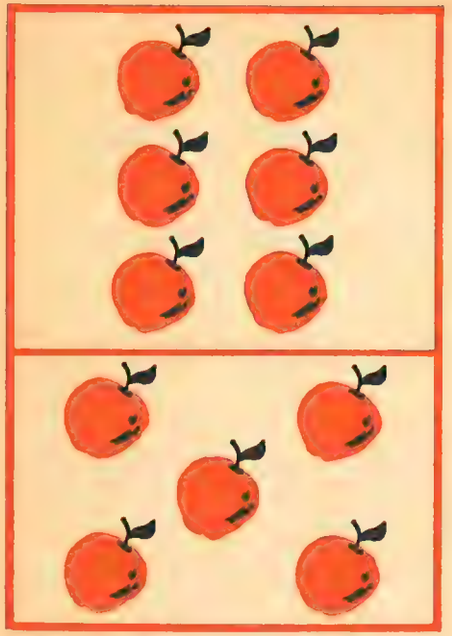
How many ✎s in all? ___

Each child should have a ✎.

How many more ✎s are needed? ___

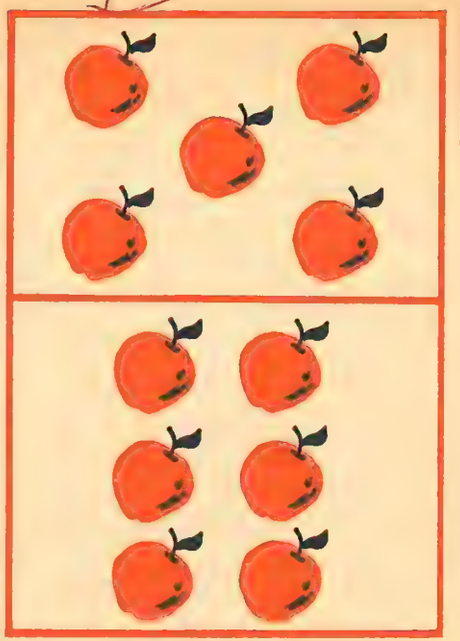
Practice on the four new related number facts and use of the new facts in story problems. Children will use the pictures to supply the missing numbers in the problems.

B



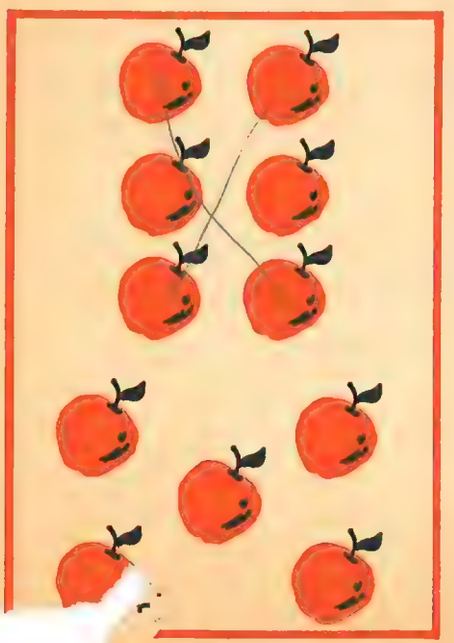
11 is 6 + 5

6	5	3	6
+5	+3	+5	+5
11	8	8	11
7	6	2	6
+2	+5	+7	+5
9	11	9	11



11 is 5 + 6

5	3	5	6
+6	+6	+6	+3
11	9	11	9
7	5	1	5
+1	+6	+7	+6
8	11	8	11

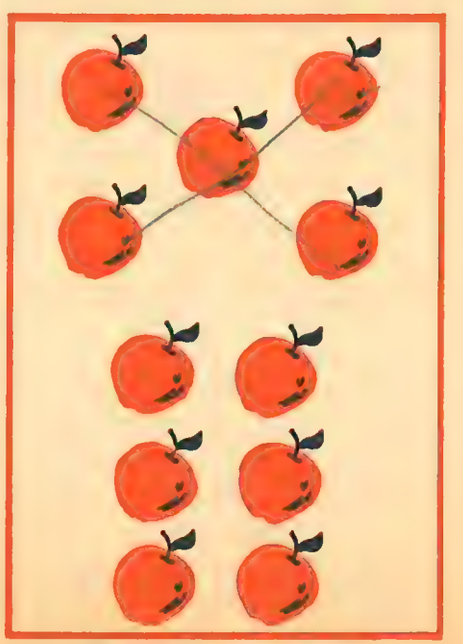


Apples in all 11

Cross out 6.

Apples left 5

11	8	8	11
−6	−5	−3	−6
5	3	5	5
9	11	9	11
−7	−6	−2	−6
2	5	7	5



Apples in all 11

Cross out 5.

Apples left 6

11	9	11	9
−5	−3	−5	−6
6	6	6	3
8	11	8	11
−7	−5	−1	−5
1	6	7	6

Visualizing related facts 6 + 5 = 11, 5 + 6 = 11, 11 − 6 = 5, and 11 − 5 = 6. Children talk about each grouped picture; dramatize the story in each picture; make a disk picture for each story; then write the missing answers.

6 + 5 = 11	6 + 5 = 11	3 + 7 = ✓	6 + 5 =	7 + 3 =	6 + 5 =
5 + 6 = 11	6 + 2 =	5 + 6 =	2 + 6 = ✓	5 + 6 =	5 + 5 =
5 + 6 =	6 + 5 =	4 + 4 = ✗	5 + 6 =	6 + 5 =	5 + 6 =
11 − 6 = 5	11 − 6 =	10 − 3 =	11 − 6 =	10 − 7 = ✓	11 − 6 =
11 − 5 = 6	8 − 6 = ✓	11 − 5 =	8 − 2 =	11 − 5 =	10 − 5 = ✓
11 − 5 =	11 − 6 =	8 − 4 = ✓	11 − 5 =	11 − 6 = 5	11 − 5 =

___ s in the short pile ___

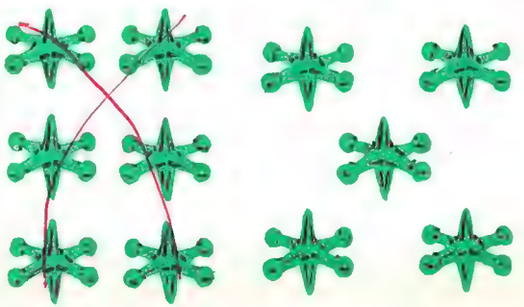
___ s in the tall pile ___

___ s in all 11

___ s in the tall pile ___

___ s in the short pile ___

___ s in all ✓



11 jacks in all

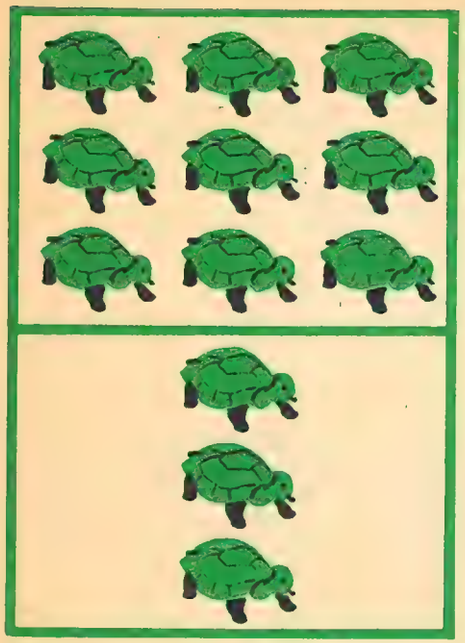
Mary picks up 6 jacks.

Cross out these 6 jacks.

You now see ___ jacks left.

Practice on the four new related number facts and use of the new facts in story problems. Children will use the pictures to supply the missing numbers in the problems.

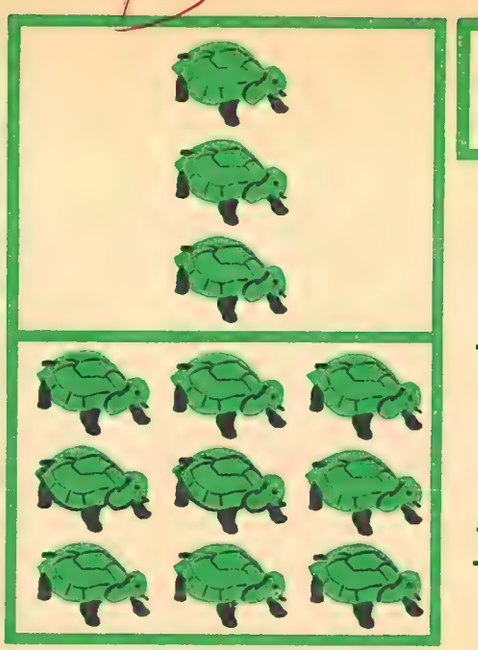
Visualizing related facts $9 + 3 = 12$, $3 + 9 = 12$, $12 - 9 = 3$, and $12 - 3 = 9$. Children talk about each grouped picture; dramatize the story in each picture; make a disk picture for each story; then write the missing answers.



12 is 9 + 3

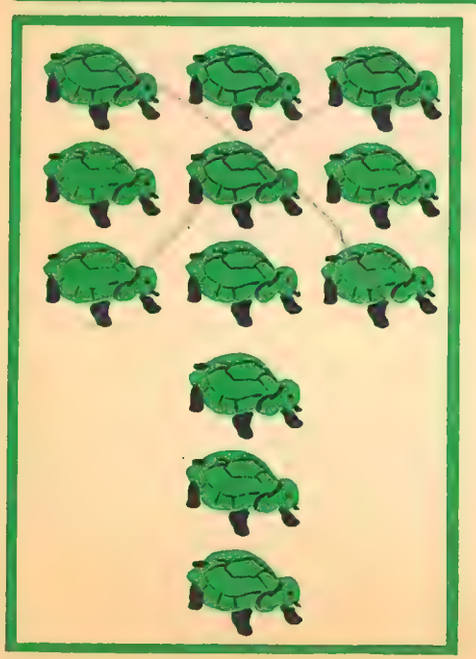
9	4	9	5
+3	+5	+3	+4
12	9	12	9
8	9	1	9
+1	+3	+8	+3
9	12	9	13

B



12 is 3 + 9

3	4	6	3
+9	+6	+4	+9
12	10	10	12
3	3	7	3
+7	+9	+3	+9
10	12	10	12

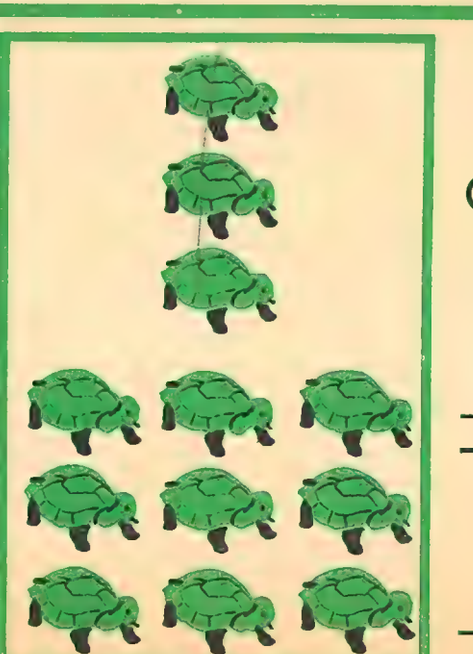


s in all 12

Cross out 9 s.

s left 3

12	9	12	9
−9	−4	−9	−5
3	5	3	4
9	12	9	12
−8	−9	−1	−9
1	3	8	3



s in all 12

Cross out 3 s.

s left 9

12	10	10	12
−3	−4	−6	−3
9	6	4	9
10	12	10	12
−3	−3	−7	−3
7	9	3	9

9 + 3 = 12	9 + 3 = 12	2 + 8 = 10	7 + 4 = 11	5 + 3 = 8	9 + 3 = 12
3 + 9 = 12	3 + 9 = 12	4 + 7 = 11	3 + 5 = 8	3 + 9 = 12	8 + 2 = 10
9 + 3 = 12	3 + 9 = 12	8 + 3 = 11	3 + 9 = 12	3 + 8 = 11	9 + 3 = 12

12 − 9 = 3	12 − 9 = 3	10 − 2 = 8	11 − 7 = 4	8 − 5 = 3	12 − 9 = 3
12 − 3 = 9	12 − 3 = 9	11 − 4 = 7	8 − 3 = 5	12 − 3 = 9	10 − 8 = 2
12 − 9 = 3	12 − 3 = 9	11 − 8 = 3	12 − 3 = 9	11 − 3 = 8	12 − 9 = 3

C

Books in the tall pile 12

Books in the short pile 9

Books in all 21

Books in the short pile 4

Books in the tall pile 12

Books in all 16

12 ✿s in all

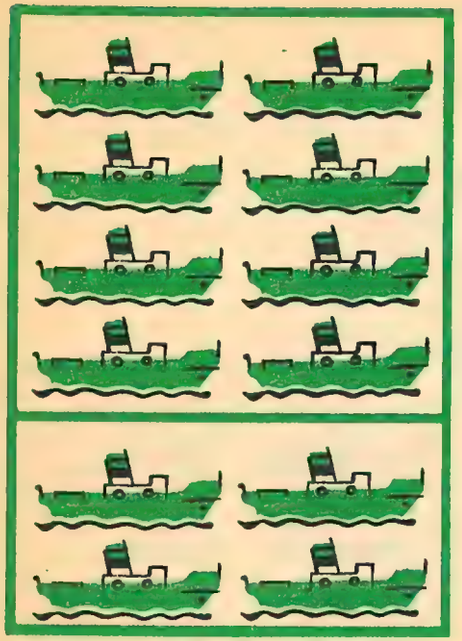
Mary takes away 3 ✿s.

Cross out these 3 ✿s.

You now see 9 ✿s left.

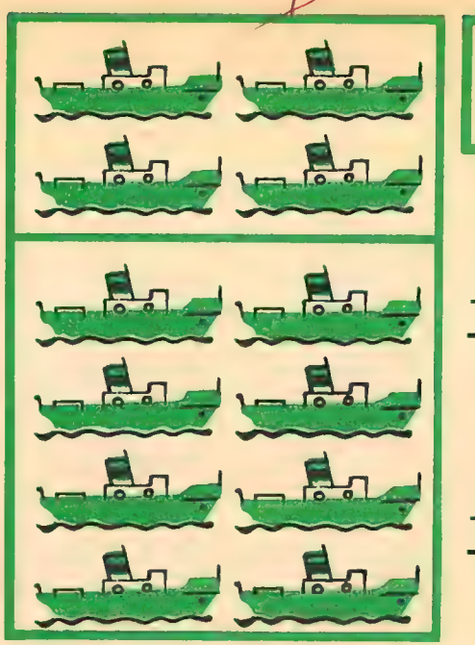
Practice on the four new related number facts and use of the new facts in story problems. Children use the pictures to supply the missing numbers in the problems.

B



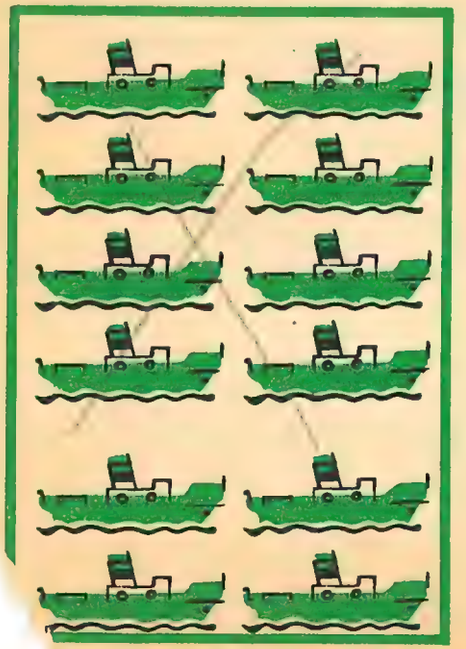
12 is 8 + 4

8	8	2	8
+4	+2	+8	+4
12	10	10	12
1	8	9	8
+9	+4	+1	+4
10	12	10	12



12 is 4 + 8

4	6	4	2
+8	+2	+8	+6
12	8	12	8
7	4	1	4
+1	+8	+7	+8
8	12	8	12

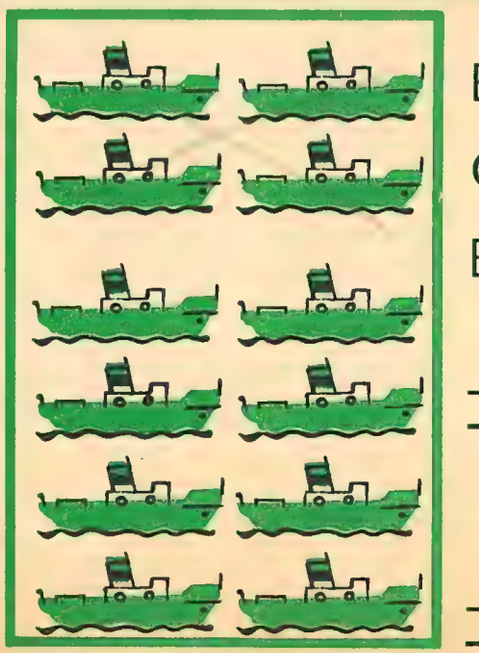


Boats in all 12

Cross out 8.

Boats left 4

12	10	10	12
−8	−8	−2	−8
4	2	8	4
10	12	10	12
−1	−8	−9	−8
9	4	1	4



Boats in all 12

Cross out 4.

Boats left 8

12	8	12	8
−4	−6	−4	−2
8	2	8	6
8	12	8	12
−7	−4	−1	−4
1	8	7	8

dramatize the story in each picture; make a disk picture for each story; then write the missing answers.

...acts 8 + 4 = 12, 4 + 8 = 12, 12 − 8 = ... = 8. Children talk about each grouped picture;

8 + 4 = 12	8 + 4 = 12	9 + 2 = 11	8 + 1 = 9	8 + 4 = 12	4 + 5 = 9
4 + 8 = 12	4 + 8 = 12	1 + 8 = 9	2 + 9 = 11	5 + 4 = 9	4 + 8 = 12
8 + 4 = 12	4 + 8 = 12	1 + 9 = 10	8 + 4 = 12	9 + 1 = 10	4 + 8 = 12

12 − 8 = 4	12 − 8 = 4	11 − 9 = 3	9 − 8 = 1	12 − 8 = 4	9 − 4 = 5
12 − 4 = 8	12 − 4 = 8	9 − 1 = 8	11 − 2 = 9	9 − 5 = 4	12 − 4 = 8
12 − 8 = 4	12 − 4 = 8	10 − 1 = 9	12 − 8 = 4	10 − 9 = 1	12 − 4 = 8

Black s 8

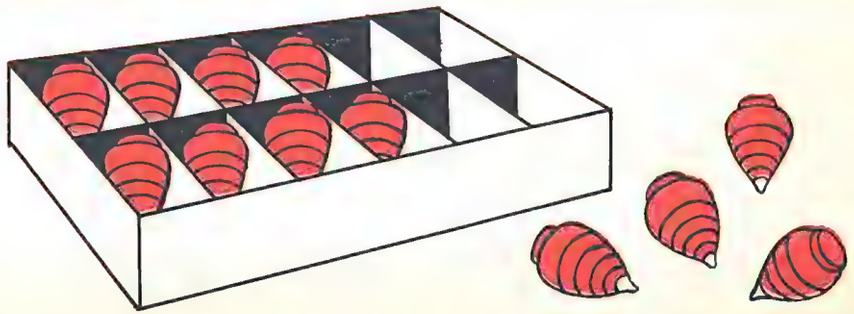
White s 4

s in all 12

White s 4

Black s 4

s in all 8



This box holds 12 tops in all.

Jack took out 4 tops.

8 tops are left in the box.

Practice on the four new related number facts and use of the new facts in story problems. Children will use the pictures to supply the missing numbers in the problems.

Visualizing related facts $7 + 5 = 12$, $5 + 7 = 12$, $12 - 7 = 5$, and $12 - 5 = 7$. Children talk about each grouped picture; dramatize the story in each picture; make a disk picture for each story; then write the missing answers.

12 is 7 + 5

7	4	6	7
+5	+6	+4	+5
12	10	10	12
4	7	5	7
+5	+5	+4	+5
8	12	8	12

12 is 5 + 7

5	3	5	7
+7	+7	+7	+3
12	10	12	10
6	5	3	5
+3	+7	+6	+7
10	12	9	12

Birds in all 12

Cross out 7.

Birds left 5

12	10	10	12
−7	−4	−6	−7
5	6	4	5
9	12	9	12
−4	−7	−5	−7
5	5	4	5

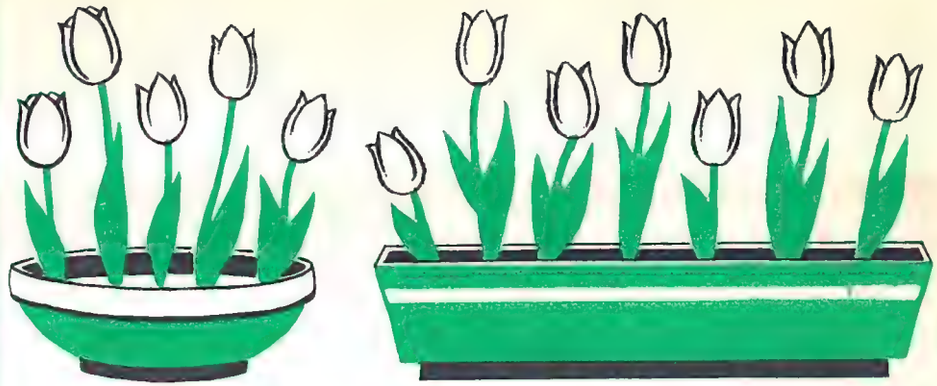
Birds in all 12

Cross out 5.

Birds left 7

12	10	12	10
−5	−3	−5	−7
7	8	7	4
9	12	9	12
−6	−5	−3	−5
3	7	6	7

7 + 5 = 12	7 + 5 = 12	9 + 2 = 11	7 + 5 = 12	2 + 9 = 10	7 + 5 = 12
5 + 7 = 12	3 + 8 = 11	5 + 7 = 12	8 + 3 = 11	1 + 7 = 8	5 + 7 = 12
7 + 5 = 12	5 + 7 = 12	7 + 1 = 8	5 + 7 = 12	7 + 5 = 12	5 + 6 = 11

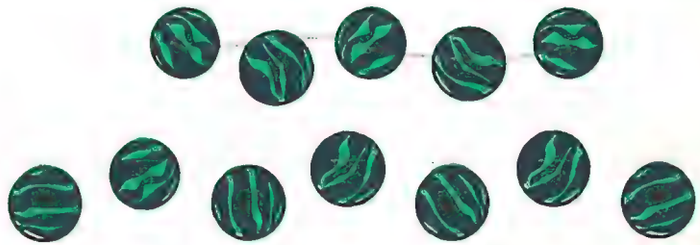


Flowers in the little dish 5

Flowers in the big dish 7

Flowers in all 12

12 − 7 = 5	12 − 7 = 5	11 − 9 = 3	12 − 7 = 5	11 − 2 = 9	12 − 7 = 5
12 − 5 = 7	11 − 3 = 7	12 − 5 = 7	11 − 8 = 3	8 − 1 = 7	12 − 5 = 7
12 − 7 = 5	12 − 5 = 7	8 − 7 = 1	12 − 5 = 7	12 − 7 = 5	11 − 5 = 4



Jim had 12 s in all.

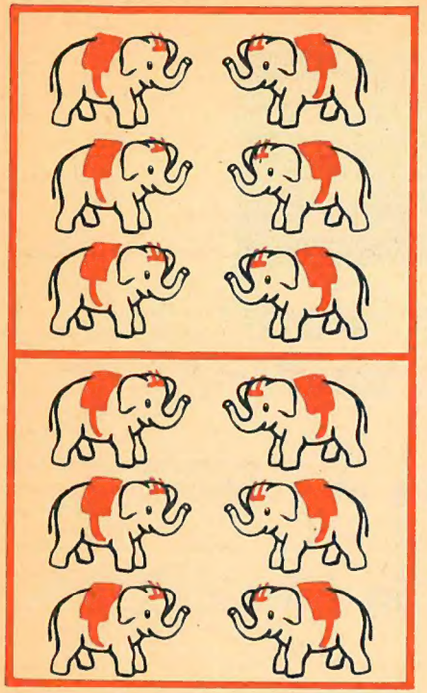
He gives Jack 5 s.

Cross out these 5 s.

Jim will have 7 s left.

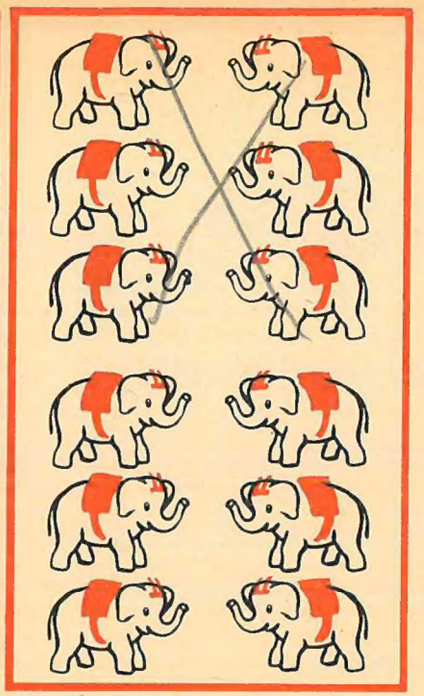
Practice on the four new related number facts and use of the new facts in story problems. Children use the pictures to supply the missing numbers in the problems.

Visualizing related facts $6 + 6 = 12$ and $12 - 6 = 6$. Children talk about each grouped picture; dramatize the story in each picture; make a disk picture for each story; then write the missing answers.



$12 = 6 + \_\_\_$

$6 + 6 = 12$	$9 + 1 = 10$	$1 + 9 = 10$	$6 + 6 = 12$
$8 + 2 = 10$	$6 + 6 = 12$	$2 + 8 = 10$	$6 + 6 = 12$



___ s in all 12

Cross out 6 s.

___ s left 6

$12 - 6 = 6$	$10 - 9 = 1$	$10 - 1 = 9$	$12 - 6 = 6$
$10 - 8 = 2$	$12 - 6 = 6$	$10 - 2 = 8$	$12 - 6 = 6$

$6 + 6 = 12$	$6 + 6 = 12$	$5 + 5 = 10$	$6 + 5 = 11$	$6 + 6 = 12$	$3 + 5 = 8$
$6 + 6 = 12$	$5 + 6 = 11$	$7 + 4 = 11$	$4 + 7 = 11$	$6 + 5 = 11$	$6 + 6 = 12$
$3 + 8 = 11$	$6 + 6 = 12$	$8 + 3 = 11$	$7 + 4 = 11$	$6 + 6 = 12$	$4 + 7 = 11$

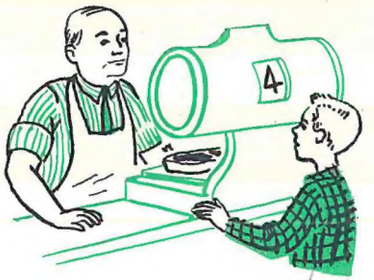
$12 - 6 = 6$	$12 - 6 = 6$	$10 - 5 = 5$	$11 - 6 = 5$	$12 - 6 = 6$	$8 - 3 = 5$
$12 - 6 = 6$	$11 - 5 = 6$	$11 - 7 = 4$	$11 - 4 = 7$	$11 - 6 = 5$	$12 - 6 = 6$
$11 - 3 = 8$	$12 - 6 = 6$	$11 - 8 = 3$	$11 - 7 = 4$	$12 - 6 = 6$	$11 - 4 = 7$

F

Can you answer?

1.

A 

B 

A. Bob weighs how many pounds? 60

Sally weighs 50 pounds.

Who weighs more? 60

B. Dick's mother wants 5 pounds of meat. How many more pounds does Dick need to buy? 1

2.

Sally and Mary each get the same. How many pieces in all? ✓

Each girl gets $\frac{1}{2}$.

Sally gets 3. Mary gets ✓.

3.

160	182	106
136	163	128

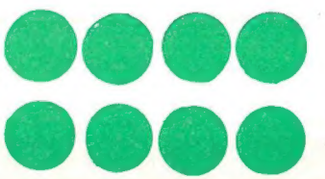
Which number is largest? 182

Which number is smallest? 163 ✓

4. How many inches in 1 foot? 12

5. How many pints in 1 quart? 2 ✓

6. How many are in 1 dozen? 9 ✓

7. 

2 fours are 10 ✓.

Half of 8 is 4 ✓.

8. 1 nickel = 5 pennies.

1 dime = 10 nickels.

1 quarter = 1 nickels. ✓

1 dollar = 200 quarters. ✓

Testing important topics presented in this book. Test includes weight; half of a group; size of numbers; review of measurement, inches, foo, pints, quart, dozen; multiplication concept; coin equivalents.

Merton Brueckner

Holt, Rinehart and Winston